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SOCIOECONOMIC ANALYSIS OF PROPOSED GRAZING MANAGEMENT PROGRAMS IN THE SOUTHERN RIO GRANDE PLANNING AREA OF NEW MEXICO

A Report to the Las Cruces District Office of the
U.S. Department of the Interior, Bureau of Land Management
in conjunction with the
Southern Rio Grande Grazing Environmental Statement

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I. PUBLIC LAND AND LIVESTOCK GRAZING IN THE SOUTHERN RIO GRANDE PLANNING AREA

This study represents an analysis of the socioeconomic impacts of grazing management programs under consideration by the Las Cruces District of the Bureau of Land Management (BLM), an agency of the United States Department of the Interior. These programs would involve approximately 3.6 million acres of range land in parts of five counties in southern New Mexico. They would be implemented in order to preserve and enhance the condition of the public lands for which BLM is administratively responsible. The historical background of the agency's involvement in this area is described below, along with the details of the proposed action and four alternatives under consideration by BLM. The particular sources of data and methods of study used to prepare this report are also described in this chapter, together with referenced appendices at the back of this volume. The main body and all appendices support the economic and social analysis of impacts of BLM actions, as contained in the Southern Rio Grande Grazing Environmental Impact Statement prepared by the Las Cruces District Office.

A. Public Land and the Planning Area

With the annexation of most of New Mexico in 1848 by the Treaty of Guadalupe Hidalgo, and the purchase of additional border territory in 1853 by the Treaty of Mesilla, all lands to which no clear title was held by private individuals or corporations became property of the United States government (Cutter, 1978). The federal government subsequently distributed large quantities of this land to settlers, under the Homestead Act and related laws, and to the Territory and, later,

the State of New Mexico, under the Territorial and Statehood Acts. Nonetheless, considerable acreage remained in federal ownership. Most of this retained property consisted of semi-desert range with scrub vegetation amidst rock, sand, and hardpan soils, areas which could not be readily cultivated, either with irrigation or dry-land farming, and which had limited non-agricultural uses (Ares, 1974). Historically, the primary use of such land has been for livestock grazing by ranch operators holding leases for specified allotments. Since 1946, most acreage of this type has been administered by BLM. In southern New Mexico, the Las Cruces District is the unit of BLM with day-to-day responsibilities for allotment leasing and range management of federal acreage not withdrawn for specific use of individual agencies. The real estate which BLM administers is hereafter labeled "public land."

The Las Cruces District encompasses six counties of New Mexico. Within a total of slightly more than 16 million acres, BLM administers approximately 4.9 million acres, or 30.6 percent of the six-county area. This land ownership is shown in Table 1.0. (An additional 4.6 million acres, or 28.8 percent, are administered for particular purposes by other federal agencies, principally the United States Department of Defense, and the Forest Service of the United States Department of Agriculture.) For administrative convenience, public land in the Las Cruces District is divided into planning units and areas. The Southern Rio Grande Planning Area is located in the middle portion of the Las Cruces District, including most of Dona Ana and Sierra Counties, and nearly half of Luna County. The Planning Area consists of three BLM planning units – Caballo, Las Uvas, and Organ – with more than 2.1 million acres of public land, 723,000 acres of state land, and 581,000 acres

in private ownership. Public land in the Planning Area represents 43.9 percent of BLM-administered acreage in the District, and 13.4 percent of the total land area within the District's boundaries.

Communities in southern New Mexico have developed with a strong dependence on public land. In the late nineteenth century, federal acreage supplied most of the basis for the region's ranching boom, in which large syndicates and investment companies moved hundreds of thousands of animals across the open range (Hutchinson, 1956). Subsequent development of the Planning Area broke up the range land, which also deteriorated steadily over the period of a century, until carrying capacities were reduced by 70 to 90 percent (Buffington and Herbel, 1963). Nonetheless, livestock ranching on public land remained a primary source of employment and income in the region until after World War II. Withdrawals of land for military and space facilities then not only curtailed grazing activity, but also created new industries on the withdrawn federal acreage. Recently, public land has also attracted increasing use of various types of desert recreation, and thus has contributed to the growth of nearby cities and towns as resort and retirement centers.

Public land represents a resource base which is utilized by surrounding communities, New Mexico, and the nation in several ways. On the acreage which continues to be administered by BLM – as distinct from tracts withdrawn for use by other agencies – livestock grazing remains the single most important economic activity. In the Las Cruces District as a whole, public land was estimated to contribute $5.1 million directly to personal income in 1976, and $10.7 million directly and indirectly, through all uses (Harbridge House, 1978). An estimated

60.8 and 72.0 percent of these totals respectively were estimated to derive from livestock grazing. However, public land is the basis for more than just this economic activity and its use cannot be valued solely in monetary terms. For example, residents and visitors to the area derive pleasure, and an enhanced quality-of-life, from many recreational activities on public land, such as four-wheeling and rock-hounding, as well as from aesthetic enjoyment of desert and wilderness locations.

Population growth and economic development in the Las Cruces District are generating increased competition between different uses of public land, and this competition is occasioning some conflicts between user groups. Previous studies of land use in the District, and surveys of users, have identified serious strains between lease-holders with an economic stake in traditional patterns of public land management chiefly in livestock grazing, and recreationists and environmentalists with an aesthetic and leisure-time orientation toward the use of public lands (Harbridge House, 1978). Land use conflicts are greatest near major population centers such as Las Cruces, in Dona Ana County, and El Paso, Texas, just outside the southern boundary of the Las Cruces District. Texas has no extensive tracts of public land, and consequently residents of the El Paso metropolitan area tend to make heavy use of nearby federal acreage in New Mexico. In grazing allotments near the New Mexico-Texas state line, instances of vandalism of grazing facilities, and of degradation of range forage due to traffic from off-road vehicles (ORV's), are commonly reported.

B. Proposed Grazing Management and Its Alternatives

Under federal law – the Taylor Grazing Act of 1934, the Classification and Multiple Use Act of 1964, and the Federal Land Policy and Management Act of 1976 – BLM is charged with the managing of public land "in a manner that will protect the land and its resources from destruction or unnecessary injury, stabilize the livestock industry dependent on public land, and provide for orderly use, improvement, development, and rehabilitation of the public land for livestock grazing consistent with multiple use, sustained yield, environmental, economic, and other objectives" (BLM, 1978). Principles of multiple use require that management of public land maintain or improve resources such as soil, water, vegetation, and wildlife. Administration of permitted grazing on BLM allotment is one means of such management. Nationwide, BLM has been implementing a program of more intensive administration of grazing programs. In the Las Cruces District, an inventory of range conditions was conducted in 1978-79, which led to the development of management plans to improve the manner in which public land was being used and developed.

In a suit filed in 1973 by the Natural Resources Defense Council, et al, the plaintiffs alleged in Federal Court that BLM's programmatic environmental statement regarding its plans for grazing management did not fully comply with the National Environmental Policy Act of 1969. As a result, BLM agreed to prepare specific environmental statements for individual planning areas. The Southern Rio Grande Planning Area is one of four such areas in the Las Cruces District. The Planning Area is bounded on the south by the Republic of Mexico and the State of

Texas, on the east by the White Sands Missile Range, on the north by Socorro County and on the west by BLM's Grant and Hermanas Planning Units, and the Forest Service's Gila National Forest. For this area, a proposed grazing management program was prepared alternatives were identified through a scoping process of public meetings, and through recommendations of BLM resource specialists. An environmental statement was written for publication in 1981.

The Proposed Action would adjust permitted levels of livestock grazing on public land in two stages. The first adjustments to be made would reduce the size of allotments from present preferred levels determined as long as several decades ago to the average licensed use reported for the period 1976-1980. This would represent a reduction, on paper at least, of 31,253 Animal Unit Months (AUM's) of permitted grazing, with livestock use of public land potentially dropping from 223,617 AUM's of preference to 192,364 AUM's permitted. A second set of adjustments would be made as a result of a special monitoring program evaluating range conditions. As a worst case, another 14 percent reduction in federal AUM's has been projected. These adjustments would be made over a five-year period. The projection estimates used for the Proposed Action indicate that, overall, initial adjustments would cut grazing in the Planning Area from the 192,364 AUM's to 165,433 AUM's. Thereafter, grazing levels would climb back up, as planned investment in range improvements and vegetative treatments were made. This investment is expected to approximate $2.6 million, and would ultimately raise the carrying capacities of all allotments in the Planning Area in 2010 by 15.1 percent over average 1976-1980 levels. (For full details of the proposed action, see Chapter 1 in the Southern Rio Grande Grazing Environmental Statement.)

BLM is considering four alternatives to the Proposed Action. The No Action Alternative would leave present patterns of livestock grazing largely unchanged: up to 324,107 AUM's (with existing preference) would be permitted on grazing allotments, although it is not expected that the actual use would exceed the 1976-1980 average level of 292,854 AUM's. The Elimination of Livestock Grazing Alternative would discontinue all leasing of public lands to ranch operators, cancelling at least 223,617 AUM's of grazing preference for an overall 65.7 percent reduction in the Planning Area and possibly also terminating additional grazing on intermingled state and private land. The Maximization of Livestock Forage Production Alternative would initiate an extensive program of range land management techniques, such that although initial adjustments in permitted levels of grazing would be the same as with the Proposed Action, long-term gains would be much greater, with a total increase of 38.7 percent over 1976-1980 levels by 2010. A fourth program, the Enhancement of Other Resource Values Alternative, is projected to reduce livestock grazing in the Planning Area by 76,404 AUM's as a result of second-stage adjustments in stocking. These cuts in grazing permits would be made in order to enhance wildlife habitat, protect stream watersheds, limit soil erosion, and preserve archaeological and cultural resources. Thus adjustments in permitted grazing over the short-term would be nearly three times as great as with the Proposed Action.

All of the grazing management programs under consideration by BLM, except the No Action Alternative, would involve closer control of allotments by the government. They would do so through permit provisions, soil-vegetation monitoring, and range improvements. With the continued exception of the No

TABLE 1.0
LAND OWNERSHIP IN THE LAS CRUCES DISTRICT
AND THE SOUTHERN RIO GRANDE PLANNING AREA

Land Owner	---Acres of Land--- Las Cruces District	SRG Planning Area
Federal	9,478,159	2,146,034
Bureau of Land Management	4,889,313	2,148,142
Bureau of Indian Affairs	22,000	—
Forest Service	1,844,193	—
Park Service	145,335	—
Department of Defense	2,189,597	—
Miscellaneous	387,721	110,000
State	2,355,080	723,000
Tribal	495,255	—
Private	3,693,908	581,000
Total	16,022,402	3,450,034

Note: a, The Las Cruces District is here defined as comprising six counties in New Mexico: Dona Ana, Grant, Hidalgo, Luna, Otero, and Sierra.

Sources: b, Harbridge House, Inc., Southwestern New Mexico Social-Economic Profile, Denver, Colorado, 1978, 2.

c, BLM, Southern Rio Grande Grazing Environmental Statement, Las Cruces, New Mexico, first draft 1980, 1-1.

Action Alternative, these programs would greatly differ in their objectives for the mix of uses made of public lands in the Planning Area. The traditional importance of livestock grazing would be acknowledged by the Proposed Action, and reinforced by the Maximization of Livestock Forage Production Alternative. In contrast, the Elimination of Livestock Grazing and the Enhancement of Other Resource Values Alternatives would end the historic primacy of cattle ranching among the various uses of BLM-administered acreage, replacing beef production with outdoor recreation and aesthetic/environmental enjoyment of public land as the chief products of management activities.

Sources of Data and Methods of Analysis

This economic and social assessment of proposed grazing management by BML and the alternative programs identified by the agency relies upon published information and upon unpublished data of two kinds. Economic information relating to the particular structure of livestock ranching in the Southern Rio Grande Planning Area was obtained from the Firm Enterprise Data System (FEDS) of the Meat Animals Branch, National Economics Division of the Economics, Statistics, and Cooperatives Service of the U.S. Department of Agriculture. This information comprised ranch budgets for 1978, the mid-point of the five-year average period, 1978-1980, for the Southern Desert Subregion as given in Appendix A. Based upon unstructured interviews with ranch operators in the Planning area, and upon average herd sizes estimated for four operating categories (subsistence, small commercial, medium commercial, and large commercial sizes), these budgets were adjusted as shown in

Appendix B. Given this set of budget data, budget elements were projected on a per Animal Unit basis for various herd sizes given increments of change of 10 percent. Resulting changes in budgets are given in Appendix C. The economic effects of livestock production at various aggregate levels was estimated on the basis of the input-output data of the Bureau of Economic Analysis, U.S. Department of Commerce, as given in Appendix D. Sociological information was collected in two waves of key informant contacts made in the Planning Area and its vicinity during 1978 and 1980. The resulting data set is described in Appendix E.

II. SOCIOECONOMIC CHARACTERISTICS OF COMMUNITIES MAKING USE OF PUBLIC LANDS IN THE PLANNING AREA

In this socioeconomic analysis, the geographic unit for which information is presented and discussed consists of the three counties which account for all but two small portions of the Southern Rio Grande Planning Area. Nine out of ten persons holding grazing permits for allotments in the Planning Area live in Dona Ana, Luna, or Sierra Counties. In addition, BLM's public involvement records suggest that a majority of recreational users of these public lands also resides in one of the three counties. Because of this concentration of the ranching and recreational populations which make use of public lands in the Planning Area, Dona Ana, Luna and Sierra Counties comprise the basic unit of analysis for this study. Throughout this report, this unit is referred to as the Three-County Area. While the Three-County Area is geographically different from the Southern Rio Grande Planning Area, the two areas largely overlap and, in socioeconomic terms, are substantially analogous.

Regional Population

In 1980, the Three-County Area had an estimated total population of 119,961. As shown in Table 2.1, nearly four out of every five of the Area's inhabitants lived in Dona Ana County, which had an estimated 1980 population of 95,861. The two other counties had much smaller populations. With an estimated 15,653 residents, Luna County represented only 13.0 percent of the total for the Three-County Area. Sierra County had an estimated 8,447 inhabitants, or 7.1 percent of the Area's population. In the Three-County Area as a whole, the number of residents more

TABLE 2.1
POPULATION, THREE-COUNTY AREA, 1950-1980

County	Number of Inhabitants 1950	1960	1970	1979	1980
Dona Ana	39,600	60,100	69,900	90,300	95,861
Luna	8,800	9,800	11,700	14,500	15,653
Sierra	7,000	6,400	7,200	8,700	8,447
All Three	55,400	76,300	88,800	113,500	119,961

Sources: a, U.S. Department of Commerce, Bureau of the Census, Census of Population, 1950-1970, Characteristics of the Population: New Mexico, Washington, D.C., 1952 and 1973.

b, University of New Mexico, Bureau of Economic and Business Research, New Mexico County Mid-Year Populations, 1975-1979, Albuquerque, New Mexico, 1980.

c, U.S. Department of Commerce, Bureau of the Census, Census of Population 1980, Preliminary Population and Housing Unit Counts, Washington, D.C., 1981.

TABLE 2.2
POPULATION GROWTH RATES, THREE-COUNTY AREA, 1950-1980

County	Average Annual Growth Rates[a] 1950-1960	1960-1970	1970-1979[b]	1970-1980	1950-1980[b]
Dona Ana	4.3	1.5	2.9	3.2	3.0
Luna	1.1	1.8	2.2	3.0	1.9
Sierra	(0.9)	1.2	2.1	1.6	0.6
All Three	3.3	1.5	2.8	3.1	2.6

Notes: a, Rates shown are compound averages.
b, Rates may reflect different data sources and assumptions of U.S. and New Mexico authorities.

Sources: All data derived from figures given in Table 2.1.

than doubled over the three decades between 1950 and 1980. As shown in Table 2.2, the most rapid growth has generally occurred in Dona Ana County, whose population grew by a yearly average of approximately 30 percent in these thirty years, compared to the Area's average of slightly more than 2.6 percent annually. However, in the late 1970's, Luna County has experienced relatively greater growth than in previous years, with all parts of the Three-County Area showing high rates of population increase after 1970.

Patterns of population growth in the Three-County Area in the 1970's have differed significantly from previous decades. In earlier years, the Area experienced net out-migration, particularly of young adults (Zickefosse, 1977). Since 1970, the three counties have had a large-scale in-migration from other parts of the state and nation. In Dona Ana County, this migration has added an average of 850 new inhabitants per year. The averages in Luna and Sierra Counties were 350 and 325 persons respectively. Most of this movement into the Area has been to Las Cruces and its environs. Since 1950, population growth in the Three-County Area has been concentrated in an urbanizing corridor which stretches from just north of Las Cruces to El Paso, Juarez and their suburbs in Texas and Chihuahua. This corridor occupies an area approximately five miles wide, including and parallel to the Pan-American Highway and the Rio Grande. It includes all of what is commonly referred to as the Mesilla Valley. The corridor's estimated combined population in 1980 was approximately 78,650, nearly two-thirds of the total population of the Three-County Area.

The growth of communities in this urbanizing corridor has been particularly great since 1970. Las Cruces itself has increased in size by 18.6 percent, from the

37,857 inhabitants reported in 1970 to the approximately 44,916 indicated by the 1980 census. This growth has spilled over into suburbs like La Mesilla, Mesilla Park and University Park, and nearby hamlets and rural locations like Dona Ana, Fairacres, and Organ. Other communities at the southern end of the corridor have been growing as suburbs of El Paso, such as Anapra-Sunland Park, Anthony and Chamberino. In October, 1979, Las Cruces and Dona Ana County were designated a Standard Metropolitan Statistical Area (SMSA) by the U.S. Department of Commerce, Bureau of the Census. Census data indicate that the greatest increases in population are occurring in unincorporated, previously rural locations on the periphery of established communities. The pattern of growth is extensive, and all types of land uses – agricultural, recreational, vacant – are being displaced by residences, roadways and utility lines.

Outside the urbanizing corridor between Las Cruces and El Paso, population concentrations are few and are widely scattered. There are three traditional centers of population located elsewhere in the Three-County Area. North of Las Cruces and the Mesilla Valley, after a narrowing of the Rio Grande floodplain over ten miles or so, there is another valley area in which the Village of Hatch is situated. Unlike the valley areas further south, the Hatch Valley remains largely agricultural and rural. In 1980 Hatch had a population estimated at 1,027 persons, a total 18.5 percent higher than the figure for 1970. Fifty-five miles west of Las Cruces, the City of Deming had an estimated 10,038 residents in 1980. Deming, the Luna County seat, thus accounted for more than half of the county's population. Seventy-five miles north of Las Cruces, the City of Truth or Consequences and the adjacent Village of Williamsburg had a combined total of 5,666 inhabitants in 1980. Together, they represented 67.1 percent of the population of Sierra County.

As the above figures suggest, most of the residents of the Three-County Area live in one of four population concentrations: the Las Cruces-El Paso urbanizing corridor, Hatch, Deming, and Truth or Consequences-Williamsburg. Four out of five inhabitants live in these urban areas, notwithstanding the fact that such areas constitute a small percent of the region's acreage. The relative urbanization of the Three-County Area is a consequence of constraints on economic and community development imposed by the scarcity of water in a semi-desert environment. Rural portions of the Three-County Area, especially away from irrigated farmlands along the Rio Grande, are spotted with ghost towns and nearly deserted rural hamlets which flourished briefly on the basis of mining, rail traffic, or ranching. Such places as Cutter, Engle, and Lake Valley no longer constitute centers of population, trade and transportation as they did a century ago. (However, what may appear to be ghost towns to passersby periodically come to life as centers of social life for the surrounding rural population.)

In general, the Three-County Area is sparsely populated. The overall number of inhabitants per square mile was estimated to be 10.9 in 1980. This figure was ten percent greater than the average for New Mexico, but less than one-fifth of the national population density. Outside urban areas, the number of inhabitants per square mile was very low: 3.5 in 1980. This figure was less than the average household size for ranching families in the Area, according to interviews conducted in connection with this study in 1980. On average, therefore, there is less than one household per square mile in rural portions of Dona Ana, Luna, and Sierra Counties. This thin distribution of the rural population reflects the large expanses of desert range and mountainous terrain. In addition, the number of inhabitants of rural

portions of the Three-County Area declined steadily from 1950 to the mid-1970's, as the number of farms and ranches diminished. Recently, this decline may have been slowed or reversed, at least in some parts of the Area, with the in-migration of retirees, recreationists, and other individuals seeking independent lifestyles with access to outdoor leisure-time activities.

The age group distribution of the population in the Three-County Area varies from the New Mexico averages, as shown in Table 2.3. There is a relatively large number of young adults, especially in Dona Ana County, and a heavy concentration of elderly persons, particularly in Luna and Sierra Counties. Persons between the ages of 18 and 44 make up 35.5 percent of New Mexico's population, but 37.3 percent of the Area's total. However, greater than two out of every five persons living in Dona Ana County are in this age group. At the same time, persons over the age of 64 represent 6.9 percent of all residents of the state, but 7.5 percent of all inhabitants of the Three-County Area. In Luna and Sierra Counties, the population is markedly older: 10.2 percent of all residents of the former, and 24.7 percent of all inhabitants of the latter, are over 64 years old. These age figures indicate the importance of New Mexico State University and related facilities to the population profile of Dona Ana County, and the significant degree to which Luna and Sierra Counties have become centers for retirees and senior citizens.

The population of the Three-County Area is characterized by two ethnic groups of approximately equal size, as shown in Table 2.4. Overall, Hispanics predominate slightly. The greatest concentrations of Spanish-surnamed persons are found in Dona Ana County, particularly in older communities near the Rio Grande, and in southern portions of Luna County. While a large part of the Hispanic population is

TABLE 2.3
AGE GROUP DISTRIBUTION, THREE-COUNTY AREA, 1970

County	Percent of Total Population			
	Under 17 Years of Age	18-44 Years of Age	45-64 Years of Age	Over 64 Years of Age
Dona Ana	40.4	40.3	14.0	5.3
Luna	40.2	28.6	21.0	10.2
Sierra	28.4	22.9	24.0	24.7
All Three	39.4	37.4	15.7	7.5
New Mexico	40.0	35.5	17.5	6.9

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970, General Population Characteristics: New Mexico, Washington, D.C., 1973.

TABLE 2.4
ETHNIC GROUP DISTRIBUTION, THREE-COUNTY AREA, 1980

County	Hispanic[a,b] Population	Percent of Total	Anglo[a,b] Population	Percent of Total	Other[a,b] Population	Percent of Total
Dona Ana	48,700	50.8	44,000	45.9	3,161	3.3
Luna	7,247	46.3	7,983	51.0	423	2.7
Sierra	3,024	35.8	5,380	63.7	43	0.5
All Three	58,971	49.2	57,363	47.8	3,627	3.0

Note: a, Hispanic defined as Spanish-surnamed, Anglo defined as all White not Spanish-surnamed, Other defined to include Black, Indian and Oriental.

Source: b, Estimates based on total population figures, 1970 census distributions, and current data of New Mexico Health and Social Services Department.

a result of migration from Mexico in this century, most Spanish-surnamed inhabitants of the Three-County Area are descended from Spanish and Mexican colonists of New Mexico in the nineteenth century. In land grants in the Mesilla Valley, the traditional Hispanic population is quite large (Donaldson, 1976). Anglos predominate in Luna and Sierra Counties, and in newer suburbs of Las Cruces. Outside of the Las Cruces-El Paso urbanizing corridor, most Anglos are native to the Area. In Las Cruces and its environs, however, a significant number of Anglos are recent migrants drawn to the area by the climate, New Mexico State University, and other factors.

Ranching Population

The Southern Rio Grande Planning Area has 198 grazing allotments. These allotments are utilized by fee-paying permittees in connection with their livestock ranching operations. An estimated 153 separate ranch operators made use of grazing allotments in the Planning Area in 1980. Approximately 12 of these operators lived outside the Three-County Area. At least five had more than half of their total number of animal units (AU's) in operating units which are outside the Planning Area. Two ran small range livestock operations in conjunction with very much larger feedlot businesses. Approximately four operated horse ranches. But, in general, livestock ranches holding grazing permits for the Southern Rio Grande Planning Unit consisted of cow-calf production units which are wholly or largely dependent on use of local range, pasture and feed supplies. In 1980, an estimated 785 persons were directly tied to these ranches either through their own employment or the employment of an immediate family member.

Of the ranching population tied to use of public lands in the Planning Area, 35.1 percent lived in Dona Ana County, 14.3 percent lived in Luna County, and 42.2 percent lived in Sierra County. The remaining 8.4 percent were not residents of the Three-County Area, with the largest concentration outside the Area being in El Paso. Only a small fraction of these non-residents, 3.2 percent of the total, lived outside of New Mexico or Texas. Within the majority of the ranching population which lived in Dona Ana, Luna and Sierra Counties, the geographic distribution was significantly different than the distribution of the general population. Whereas Dona Ana County accounted for 79.9 percent of all inhabitants of the Three-County Area, it accounted for less than half that share of the ranching population. Luna County represented 13.0 percent of the general population, but 15.6 percent of ranchers and their families. The disproportionate concentration of the ranching population in Sierra County is obvious. With only 7.1 percent of the Area's inhabitants, Sierra County represented 46.1 percent of the population tied to ranching on public lands.

Consequently, the relative significance of the population supported (at least in part) by livestock ranches using grazing allotments in the Planning Area varied greatly between counties. In Dona Ana, the ranching population was negligible, making up 0.3 percent of the county's residents. In Luna County, the families of ranch operators and workers were slightly more significant: 0.8 percent of all inhabitants. In Sierra County, the smallest and least developed portion of the Three-County Area, the ranching population was an important element of the total. An estimated 332 persons belonged to the families of ranch operators and workers tied to units using public lands in the Planning Area. This ranching population constituted 3.9 percent of Sierra County's total population. Not surprisingly, the

total ranching population living in the Three-County Area is much less urban than the general population: less than 6.5 percent lived in Las Cruces, and fewer than two in five had mailing addresses in one of the Area's four major population concentrations.

Like other elements in the rural population of the Three-County Area, the ranching population connected with grazing on public lands has been declining in size in recent decades. This decline is a consequence of the reduced number and the diminished size of ranch operations. Several major federal actions have withdrawn large quantities of land from grazing use for purposes of research and testing. These withdrawals have led to the closure of some ranches, and have cut the size of many surviving operations. The conservatism of ranch families, and their attachment to their lands, are shown in the fact that some operators who lost their homes and headquarters in the creation of the White Sands Missile Range waited two decades or more for a chance to return, as a result of which a few never entirely reconstituted their base of operations. Other factors have also contributed to the decline of the ranching population: periodic drought, low prices for beef, and rising costs of energy and materials.

Recent years have included many which were unusually dry, leading to the reduction in herds and some consolidation in operations. Drought is, of course, nothing new in the Area, and its effects have been felt before. Eugene Manlove Rhodes, the novelist who was also a rancher with his headquarters northeast of Engle, repeatedly described the ways in which drought depopulated the range (Rhodes, 1975). Historically, the ranching population has risen and fallen cyclically

with climatic trends, and operators have accepted the idea that "sooner or later in desert country, there is going to be a long, long drought, and when the rainless years come, everybody suffers" (Sonnichsen, 1960). However, in the past several decades, the resilience of ranchers has been reduced by economic adversity and by the competition, for capital and labor, of new industries which have developed on public lands in the Area. The natural aging of ranch operators has been combined with an increasing reluctance of their children to continue in the ranching business to effect a steady attrition in the number of livestock ranches.

As a result of climatic and economic conditions, the ranching population is increasingly dependent on non-ranching sources of employment and income. Most ranch households have such sources; a majority have at least one family member who regularly works off the ranch on a full- or part-time basis. Therefore, the extent to which the ranching population is a wholly separable element in the general population is being diminished. Many ranches are run as a hobby or for recreation. The majority of operations making use of public lands in the Planning Area run less than 75 head of cattle, and such ranches do not constitute commercial ventures capable of earning sufficient cash incomes to provide operators and their families with a livelihood. Thus, most members of the ranching population are identified as such on attitudinal, rather than economic, bases (for a discussion of ranching attitudes and values see below).

The age group distribution of the ranching population is not significantly at variance with that of the general population, although ranch operators, like most proprietors of established businesses, tend to be well over the median age,

averaging 53 years of age. The two ethnic groups which comprise most of the inhabitants of the Three-County Area, also account for the overwhelming majority of ranch operators, workers and their families. However, the relative size of the two groups is very different. Of the 154 ranchers using public lands in the Planning Area, only 29 are Hispanic. Thus, the percentage of Spanish-surnamed ranch operators, 18.8 percent, is far less than the percentage of Hispanic residents of the area as a whole, 49.0 percent. Moreover, Hispanic operators are usually of subsistence size (less than 75 AU's). Of all AU's controlled by ranchers with grazing allotments, less than 3.0 percent were controlled by Hispanic operators. Ranch workers, especially those hired on a part-time basis, tend to be Hispanic, but still the proportion of the ranching population which is Spanish-surnamed is estimated to be less than one-third of the total.

The predominance of Anglos – more than 67 percent of the ranching population, with control of approximately 97 percent of the total cattle herd – reflects the historical development of the Area and its two primary ethnic groups. Hispanic colonists were chiefly agricultural, tied to irrigated farming from the Rio Grande, although three grazing allotments in the Southern Rio Grande Planning Area were set aside for the use of traditional Hispanic farming communities. For the most part, however, grazing allotments were established in range lands away from the river and were defined in relation to ranching operations in these areas which were founded and managed by Anglo settlers and their descendents. "Stock-raising was one of the first activities to bring Anglos to the area. Capitalizing on the vast amount of range land available and new access to eastern markets (through railroads), a cattle boom occurred . . . The cattle industry later met reverses, and now the herds owned by any one operator are much smaller than in the early days" (Zeleny, 1974).

Regional Economy

In 1980, an estimated 39,265 inhabitants of the Three-County Area were employed on a regular basis. Approximately 4,275 persons worked directly in agriculture, chiefly in connection with irrigated cultivation of cotton, grains and specialty crops such as almonds and chili peppers. As shown in Table 2.5, the most important sources of employment in the Area were government, trade and services. Total labor and proprietor's income in the Three-County Area was estimated to be $611,665,000 in 1980. Agriculture contributed approximately $51.1 million to this total, or 8.4 percent to this total, making farming and ranching relatively more important to this region than in any other part of New Mexico. Even so, as shown on Table 26, the contribution of agriculture was dwarfed by the contribution to income of government, which was nearly five times as great. Recent growth in the regional economy has been concentrated in the government and other non-agricultural sectors. Whereas agricultural employment and income have fluctuated sharply in the past two decades, new basic industries have grown up around military-aerospace research and testing, higher education, recreation and tourism.

Within the Three-County Area, the pattern of economic activity varies greatly. Four interrelated yet distinct components make up the regional economy, and each has a geographic as well as an economic dimension. The most important is centered on Las Cruces, whose role as the Area's commercial center is based upon spending by federal authorities at White Sands and other facilities, and by the State of New Mexico through New Mexico State University. By contrast, Truth or Consequences and its vicinity in Sierra County, and scattered small communities

TABLE 2.5
EMPLOYMENT, THREE-COUNTY AREA, 1980

Sector	Dona Ana County	Luna County	Sierra County	Three-County County
Agriculture	3,160	645	440	4,245
Range Livestock Production in Planning Area	80	33	97	210
Manufacturing	1,515	475	10	2,000
Mining	75	35	80	130
Construction	1,480	150	80	1,710
Transportation, Communications, and Public Utilities	1,225	290	110	1,625
Trade	5,640	1,045	410	7,095
Finance, Insurance, and Real Estate	870	175	100	1,145
Services	4,000	440	345	4,785
Government	14,335	1,245	950	10,530
Total	32,240	4,500	2,525	39,265

Source: Estimates based on total employment (June 1980) from New Mexico Employment Security Commission, Civilian Labor Force, Employment, Unemployment, and Unemployment Rate, Albuquerque, and sectoral distribution (April 1980) from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System: Dona Ana, Luna, and Sierra Counties, Washington, D.C.

elsewhere are resort and retirement centers, dependent on the continued in-flow of elderly migrants and their savings. The valley areas along the Rio Grande are the location of intensive agriculture, with heavy investment in cotton and chili production. The desert range on either side of the river, exclusive of areas near federal installations, are still heavily dependent on cattle ranching as a basic industry.

Ranching Economy

In 1980, livestock ranches using public lands in the Southern Rio Grande Planning Area employed approximately 210 persons (on a full-time or equivalent basis). Seasonal employment differs from the annualized total, particularly during periods of branding and shipping. At these times, additional hands are hired to help and family members are often pressed into service. In most ranching households, the spouses and dependents of operators routinely contribute large amounts of uncompensated labor; these part-time workers are not counted in the employment total. Full-time ranching employment tied to operations with grazing allotments in the Planning Area represented less than 5.0 percent of all agricultural jobs in the Three-County Area, and less than 0.5 percent of the total employed work force in the region. Similarly, these ranches contributed an estimated $1.9 million to personal income. This constituted 3.7 percent of income from the agricultural sector and less than 0.4 percent of total personal income from all sources.

Livestock ranching has traditionally been important to the regional economy, but in relative terms it has been diminishing. Even by some absolute measures, the

TABLE 2.6
PERSONAL INCOME, THREE-COUNTY AREA, 1980
(in thousands of 1980 dollars)

Sector	Dona Ana County	Luna County	Sierra County	Three-County Area
Agriculture	$ 40,385	$ 6,465	$ 4,225	$ 51,075
Range Livestock Production in Planning Area	1,029	424	1,247	2,700
Manufacturing	53,690	5,140	120	58,950
Mining	300	1,000	700	2,000
Construction	41,740	2,950	2,820	47,510
Transportation, Communications, and Public Utilities	24,995	7,600	2,890	35,485
Trade	54,750	14,000	3,380	72,130
Finance, Insurance and Real Estate	21,715	2,365	1,130	25,710
Services	64,910	6,075	4,205	75,190
Government	214,495	17,315	11,805	243,615
Total	$516,980	$63,410	$31,275	$611,655

Source: Estimates based on provisional data (April 1980) from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System: Dona Ana, Luna, and Sierra Counties, Washington, D.C.

ranching business in the Three-County Area has been in a decline. The total number of AU's in the Area was estimated by the 1960's to be less than two-thirds of what it was in 1918 (Henderson and Stucky, 1966). As one state report concluded, the local beef industry "has had a marked decline when compared to the state's other major sectors" (Reuta and Zink, 1978). The rapid rise of government employment and income has partly been at the expense of livestock ranching, with the displacement of grazing from withdrawn lands, the competition for capital and land, and pressures of induced growth in affected communities. Increases in energy costs, as well as general inflation, have also hurt ranch operators more than other kinds of businessmen and employers, due to the extensive nature of their operations and the significant amount of required investment in range improvements, ranch equipment, and maintenance.

In general, ranching in the Planning Area is not profitable in business terms. Except for the largest ranches, operators can cover their variable costs of operation, but cannot make full allowance for their fixed costs, including depreciation. Typical ranch budgets are shown in Table 2-7 for four sizes of cow-calf operations in the Area during the five-year average period, 1976-1980. As indicated, livestock sales exceeded operating costs in all size categories. However, if ownership costs, including depreciation expense, are considered, most ranches lost money. These budgets emphasize what cattlemen themselves know to be a fact: they lose money over the long-term by staying in the business. But most do so out of love for the work and desire to have the accompanying lifestyle. In this sense, their persistance in ranching is a form of personal consumption, and every year ranchers "spend" some of their accumulated wealth. Rising land prices in

TABLE 2.7
BUDGETS FOR TYPICAL CATTLE RANCHES WITH ALLOTMENTS IN THE PLANNING AREA, 1980

Budget Item	Subsistence[a]	Small Commercial	Medium Commercial	Large Commercial
Livestock Sales	$ 6,575[b]	$ 30,300	$ 64,510	$ 187,600
Operating Costs	3,555	16,405	34,595	82,495
Net Cash Income	3,020	13,895	29,915	105,105
Ownership Costs	3,855	17,615	36,775	90,125
Net Business Income	(835)	(3,720)	(6,860)	14,980

Notes: a, Sizes of typical ranches are as follows: Subsistence Size, 1-74 AU's, average 24 AU's. Small Commercial Size, 75-199 AU's, average 123 AU's. Medium Commercial Size, 200-499 AU's, average 316 AU's. Large Commercial Size, 500 and more AU's, average 870 AU's.

b, Figures rounded to nearest five dollar values.

c, Parentheses indicate negative values.

Source: Estimates based on linear programming of budget data supplied by U.S. Department of Agriculture, Economics, Statistics and Cooperatives Service, National Economics Division, 1980. See Appendix B for discussion of Basic data set.

recent years have added to the paper wealth of most ranch operators, permitting them to borrow the additional money they need to stay on in ranching.

In 1980, 153 separate livestock ranches used grazing allotments in the Planning Area. Seventy-seven operations had herds which averaged less than 75 AU's over a five-year period ending in 1980. These subsistence-size ranches are generally not operated as a primary source of income for the operator and his family; all operators in this size category have non-ranch jobs or income sources. There were 28 ranches with between 75 and 199 AU's as of 1980. These constitute a small commercial size category, and generated enough cash income (although not business profit) to support an operator and his family. In 1980, an additional 26 ranches had 200 to 499 AU's. These medium commercial size operations supported an operator, a hired hand, and their families. The largest size category comprised 22 ranches with 5600 or more AU's. These operations had an average of two hired hands.

In the five-year average period 1976-1980, these several size categories of ranch had annual livestock sales of nearly an estimated $7.2 million, as shown in Table 2.8. Total cash income generated by these sales was over $3.7 million, of which more than half – an estimated 42.5 percent, or nearly $1.9 million – was treated as personal income by ranch operators. However, when depreciation and other non-cash business costs are allowed for, the combined business income of ranching operations using public lands in the Planning Area constituted a real loss of approximately $20 thousand, or an average of almost over $110 a ranch. This negative return was cushioned by appreciation in the value of ranch land (although

TABLE 2.8
LIVESTOCK SALES AND RANCH INCOME
FROM THE PLANNING AREA, 1980

Budget Item	Subsistence[a]	Small Commercial	Medium Commercial	Large Commercial	Total
Livestock Sales	$ 506,120[b]	$ 848,430	$ 1,677,210	$ 4,127,200	$ 7,158,960
Net Cash Income	232,540	389,030	777,710	2,312,310	3,711,590
Net Business Income	(64,295)[c]	(104,245)	(178,438)	329,560	(17,418)

Notes: a, Sizes of typical ranches are as follows: Subsistence Size, 1-74 AU's, average 24 AU's. Small Commercial Size, 75-199 AU's, average 123 AU's. Medium Commercial Size, 200-499 AU's, average 316 AU's. Large Commercial Size, 500 and more AU's, average 870 AU's.

b, All figures have been rounded to nearest whole five dollars.

c, Parentheses indicate negative values.

Source: Estimates based on budgets for typical cattle ranches with allotments in the Planning Area, as given in Table 2.7.

not necessarily the market value of the ranch business as distinct from the real estate it employed). However, the net business loss entailed in ranching could only be offset by borrowing against the increasing value of the ranch or by selling the operation. Most ranchers did the former in the period 1976-1980; those who sold out often had to do so at a discount, because of the operating losses associated with their ranches.

The livestock ranches utilizing public lands in the Planning Unit varied not only by size, but also by the extent of their dependency on grazing permits to provide forage for their herds. In general, the smaller ranches were relatively more dependent on public lands. Ranches in the subsistence size category, averaging 24 AU's, relied on grazing permits from BLM for 70.5 percent of necessary forage. The small commercial size operations, averaging 123 AU's, were dependent for 63.6 percent. The medium commercial size ranches, averaging 316 AU's, used public lands to support 59.8 percent of herds. Only the large commercial size operators had greater resources in their privately-owned and state-leased lands than were supplied by grazing permits for public lands; these ranches averaged 870 AU's in size and were dependent for 40.7 percent of that total. In addition, the largest ranches often had access to rangelands and/or feedlots located outside the Three-County Area. These operations were thus less dependent on ranching in the area than smaller units wholly located there.

The significance of grazing permits is financial as well as operational. Most ranchers regularly undertake short-term borrowing to provide for their operating costs; many incur significant long-term debt in order to make improvements and

purchase machinery. Currently, financial institutions value ranches on the basis of the AU's ranchers control, including AU's dependent on leased public land. This form of valuation effectively measures the production potential of livestock operations through the total reported AU's, whether these units were based on privately-owned or leased range lands. In 1980, this loan valuation exceeded $20 million for the 153 ranches tied to grazing allotments in the Planning Area. The actual extent of indebtedness among ranch operators is unknown. Many ranchers inherited their operations, or purchased them on favorable terms from relatives or in-laws. However, a few have entered the business without such assistance, and in order to do so, have borrowed heavily. Usually, these new operators are young, lack other financial resources, and expect to earn the necessary returns to repay loans with better than average livestock sales and carefully controlled costs. Recent drought conditions have required other, more established operators to borrow, as production has fallen, costs have risen, and prices have stagnated.

Social Conditions

More than half of the land in the Three-County Area is under the BLM's jurisdiction. Throughout the Area, there is widespread interest in the land use decisions of the agency, especially as the extent and rate of urbanization increases. Public lands are perceived as a basic resource on which a range of not only economic activities, but public services, recreational activities, and community lifestyles depend. This perception translates into increasing pressure to open public land near urban areas to alternative uses. Urbanization is the predominant trend in the Three-County Area. The Area's development is a part of the general population

shift within the nation to the so-called Sunbelt. Much recent growth is due to employment expansion in the trade, services and education sectors in urban areas. However, in addition to job opportunities, there are other reasons why people are being attracted to the area. The immigrant population has specific expectations for the better life, including a desired mild climate and anticipated available open space. These perceived features of the Three-County Area – economic opportunity, climate, and open space – are not too different from the perceptions which originally motivated settlers to move into the Area a century ago.

At the same time as urban portions of the Three-County Area have been growing and the economic sectors based in them expanding, the rural communities and industries have declined. Over the last 30 years rural populations in the Area have decreased sharply and their overall contribution to the commerce of the region has diminished. This is parallel to a national trend toward diminished populations in rural areas due to the increased size, and reduced number, of agricultural operations. As described earlier, adverse economic and weather conditions have accelerated the decline in livestock ranching, compared to the agricultural sector as a whole. Thus, in this socioeconomic analysis, the ranches tied to public lands are a small and decreasing portion of the regional economy in the Three-County Area. The element of the overall population which is likely to experience the greatest impacts flowing from proposed grazing management programs is the ranching population specifically tied to use of allotments in the Planning Area. This population is a distinct component of the regional total, and its members display distinctly different attitudes, values and lifestyles than do other, predominantly urban inhabitants of the Area.

In primary data gathered by Harbridge House in 1978, rural and urban key informants displayed some important differences in describing the reasons for being attracted to the Three-County Area. These reasons are shown in Table 2.9. Rural informants, of whom a majority were livestock ranchers, said the area was attractive because of its ranching and farming opportunities. They liked the area for its people and the feeling of being a part of a small community. They shared a love of the climate and open space with their urban counterparts, along with their general like for the people of the area. But, in contrast to rural sentiments, the urban informants expressed a liking for town life and an urban atmosphere as well as the recreational opportunities of the area. As shown in Table 2.10, both rural and urban key informants expressed some dislike for rapid population growth. However, rural residents felt that this growth produced a more immediate threat, namely encroachment on agricultural land, vandalism of farm sites, and competition for labor and water. By contrast, urban informants were critical of the general inadequacy of services/amenities, the ineffectiveness of city planning, and the lack of available jobs for youth.

These responses suggest that the ranching and rural populations like the exurban atmosphere associated with places of residence and type of work. For them, recent growth is seen as producing more access for outsiders to what they see as "their" land, and consequently as promoting misuse and vandalism of what had been a local community resource. The faster growing urban population in the Las Cruces-El Paso urbanizing corridor likes the area for its climate, open space and especially its recreational opportunities. They too, do not like growth which may be associated with declining quality of city services, planning and availability of jobs. But they

TABLE 2.9
REASONS FOR BEING ATTRACTED
TO THE THREE-COUNTY AREA

Rural Key Informants[a]	Urban Key Informants[b]
1. Ranching/Farming	1. The Town
2. People, Friends	2. Climate
3. Small Community Feel	3. People
4. Climate	4. Recreation Opportunities
5. Open Space	5. Open Space

Notes: a, Ranked from most-mentioned to least-mentioned with a total of 77 codeable responses.

b, Total of 80 codeable responses.

Source: Key informant survey conducted by Harbridge House, 1978; interviews on file in Las Cruces District Office.

TABLE 2.10
REASONS FOR NOT BEING ATTRACTED
TO THE THREE-COUNTY AREA

Rural Key Informants[a]	Urban Key Informants[b]
1. Nothing	1. Nothing
2. Population Growth on Agricultural Lands	2. Too Much Growth
3. Vandalism on Rangelands	3. Lack of Services/ Amenities
4. Water Problems	4. Bad City Planning
5. Welfare Spending; Unwillingness to Work for Minimum Wage	5. Lack of Jobs and Activities for Growth

Notes: a, Total of 42 codeable responses.

b, Total of 40 codeable responses.

Source: Key informant survey conducted by Harbridge House, 1978; interviews on file in Las Cruces District Office.

especially like the accessibility of public lands for their use. Thus, even though both urban and rural residents appear to be dissatisfied with the rate and direction of growth in the Three-County Area, the rural population react more negatively to it's implication for public lands use and management. (See Table 2.11.)

When asked, "has recent growth been positive or negative?", the rural informants actually appeared to be neutral (X = 2.93) with approximately half saying that growth was good and half saying it was generally bad. For the urban informant, the reaction was different. They tended to be more positive about the prospects and results of growth (X = 3.54). This difference reflects the strong belief among many ranchers, members of their families, and their rural neighbors, that the growth of the region is destroying the community values and lifestyles they desire. This attitude notwithstanding, when rural and urban informants in the Three-County Area were asked about the important aspects of their life, there was considerable similarity in the rankings. (See Table 2.12.) The family was perceived to be a very important value for both rural and urban residents. For the rural sector, land and meaningful work were also ranked high. On the average, urban informants felt that community relationships and religious beliefs were important values in their lives; rural respondents also felt they were important but they were usually ranked lower. Personal development and "the area" in general was important to urban residents. The major difference between the stated values of the two categories of informants appears to be in the value they attribute to the land.

Rural and urban informants gave similar assessments of the quality of the community services in the Planning Area. (See Table 2.13.) The rural/ranching

TABLE 2.11
PERCEPTION OF THE BENEFITS ASSOCIATED WITH RECENT GROWTH IN THREE-COUNTY AREA

	Very Negative	Negative	Neutral	Positive	Very Positive	$\bar{X}$[a]
Rural Residents	2	14	18	15	0	2.93
Urban Resident	0	4	16	26	2	3.54

Note: a, Average of responses with the following values: Very Negative = 1; Negative = 2; Neutral = 3, Positive = 4, Very Positive = 5.

Source: Key informant survey conducted by Harbridge House, 1978; interviews on file in Las Cruces District Office.

TABLE 2.12
VALUE PRIORITIES OF URBAN AND RURAL INFORMANTS IN THREE-COUNTY AREA

Rural[a]	Urban
1. Family	1. Family
2. Your Land	2. Community Relationships
3. Meaningful Work	3. Religious Belief
4. Community Relationships	4. Personal Development
5. Religious Beliefs	5. This Area

Note: a, Number of informants who perceived the above value categories as very important; total number varied between 41 and 46.

Source: Key informant survey conducted by Harbridge House, 1978; interviews on file in Las Cruces District Office.

population rated most of the services as "average" or "above average" except for the adequacy of health care (X = 1.79). This parallels national data which reflects shortage of doctors and general medical facilities in rural areas. Overall the quality of the rural infrastructure including schools, law enforcement, health care, local government, shopping and housing were rated higher among urban informants. This appears to be another manifestation of growth in the urban areas and the influx of persons with higher education from the Midwest and East who in turn have higher expectations for the delivery of community services. Similarly, community services in rural areas are declining due to outmigration and shrinking revenues.

Within the rural population of the Three-County Area, ranchers, ranch workers and their families make up a particular minority, with a distinct history. Many of the ranch operators using public lands in the Planning Area inherited their operations and thus equate ranching activities with their family identity. As Table 2.14 shows, of 39 permit-holders contacted and interviewed during the fall of 1980, 26 had lived in the Planning Area for more than 25 years. This figure represents roughly 67 percent of the permittees, many of whom operate their ranches in collaboration with other branches of what are extended family. This does not mean that the ranching business in the area is not changing. Climatic and economic pressures on operators have been previously described. But despite the decline of ranching, by far the largest number of permittees live on or adjacent to their allotments (see Table 2.15). In fact, 32 of the 39 permittees who were contacted in 1980 live on their ranch. A much smaller percentage has two residences – in town and on the ranch. Still fewer live in the rural villages and hamlets in the Hatch Valley or in one of the region's population centers.

TABLE 2.13
COMPARATIVE RANKINGS OF DIFFERENT COMMUNITY SERVICES IN THREE-COUNTY AREA

Urban Rank	X Score	Service	Rural Rank	X Score	Service
1	2.95	Quality of Schools	1	2.93	Adequacy of Law Enforcement
2	2.84	Adequacy of Law Enforcement	2	2.85	Effectiveness of Local Government
3	2.76	Adequacy of Health Care	3	2.77	Quality of Schools
4	2.69	Effectiveness of Local Government	4	2.12	Availability of Shopping
5	2.56	Availability of Shopping	5	2.09	Availability of Housing
6	2.25	Availability of Housing	6	1.79	Adequacy of Health Care

Notes: a, 1 = poor, 2 = fair, 3 = good, 4 = excellent; the higher the score, the better the rating.

b, Total number (N) of codeable responses in each category varied between 45 and 49.

Source: Key informant survey conducted by Harbridge House, 1978; interviews on file in Las Cruces District Office.

TABLE 2.14
LENGTH OF RESIDENCE IN THREE-COUNTY AREA OF RANCH OPERATORS TIED TO PUBLIC LANDS

Code Category	N	Percent
Lifelong (Over 26 Years)	26	67
10 to 25 Years	2	5
5 to 9 Years	5	13
1 to 4 Years	3	8
Less Than 1 Year	1	2
Not Specified	2	5
Total	39	100

Source: Ranch operator interviews conducted by Harbridge House, 1980.

Ranching families often supplement income from livestock sales with other jobs or businesses. For a majority of the cattle growers in the Area, their ranches are not their only source of income (see Table 2.16). Forty-nine percent of the permittees in our sample said that ranching is the prime source of their income. A smaller proportion (13%) reported that farming was their prime employment. But fully 38 percent of the sample either had major, supplementary sources outside of agriculture or did not consider ranching as the prime source of their income (13%). Most of the ranchers in our sample were middle aged, with a median age of 51 years. Most were married or widowed with their family and non-adult children living with them. As mentioned earlier, many of the permittees had fathers and in some cases grandfathers who had ranched before them. As a result the current operators had been socialized in the ranching lifestyle from childhood and in some cases are descendents of three generations of livestock producers. Some of these family realtionships become formalized as partnerships, and this step toward incorporation appears to be related to both the need to reduce operating costs and establish inheritance patterns. For many, it appears that a strategy of utilizing the family in the operation at the ranch and not differentiating between personal and business income allows them to survive at their present level of production. Such approaches to ranching reflects the non-economic factors which affect the willingness to remain in the beef industry.

This pattern of family commitment to, and involvement in, ranching operations illustrates the fact that profit maximization is usually not the primary incentive for operators to stay in the livestock industry. The ranch operator and his family are committed to the ranching lifestyle even though climatic and economic forces

TABLE 2.15
LOCATION OF RANCH OPERATORS' RESIDENCE IN RELATION TO GRAZING ALLOTMENT

Code Category	N	Percent
Operator resides on or adjacent to allotment	32*	83
Operator resides in rural area but not on or adjacent to allotment	2	6
Operator lives in town or city	4	11
Total	39	100

*Some permittees have residences in town and on ranch, but claims ranch residences as primary.

Source: Ranch operator interviews conducted by Harbridge House, 1980.

TABLE 2.16
DISTRIBUTION OF RANCH OPERATORS TIED TO PUBLIC LANDS BY PRIMARY SOURCES OF INCOME

Code Category	N	Percent
Ranching is prime source of income	19	49
Farming is prime source of income	5	13
Ranching is prime source of income with supplemental sources	10	25
Ranching is not prime source of income	5	13
Total	39	100

Source: Ranch operator interviews conducted by Harbridge House, 1980.

may operate against its maintenance. Most ranchers self-consciously express an image of themselves as independent and self-reliant. They want to be seen as the "self-sufficient individualist who preferred solitude and an isolated rural residence." (Bostwick and Rodewald, 1978.) In this regard, most ranchers expressed a strong preference for the pace and content of ranch life. Even ranch operators and workers who have been forced to supplement their ranching income by taking city jobs, expressed an alienation from urban life and an insistence on their identify as ranchers. The bounds of social acceptability and conformity rarely seem to reach beyond their own rural communities. For them, the ranching population's standards of propriety and basic values are paramount.

Their self-conscious identification as ranchers and members of a broader ranching community distinguishes most operators, ranch workers and family members from urban residents and other occupational groups in the area. In the value systems of the ranching population, management rank and financial rewards are less important than are independence on the job and neighborliness with community members who share key values. Even though ranchers readily admit that in most cases, a large portion of their holdings are public lands, they often hold strong feelings about the need for limited access to grazing allotments – the usual prerogative of a sole owner and proprietor. They feel that this implied ownership and control over the land, equipment and cattle is not only basic to the perpetuation of their independent lifestyle, but also justified on the basis of a century's tradition of use and several generations' contributions of capital and labor to beef production from the desert range. (See Table 2.17 for value priorities taken from discussions with 39 permittees in a random sample of operators in the Southern Rio Grande Planning Area).

TABLE 2.17
VALUE PRIORITIES OF THE RANCHING POPULATION IN THE SOUTHERN RIO GRANDE PLANNING AREA*

Code Category	N** (number of mentions)	Rank
Individual-self sufficiency and reliance on one's own abilities.	25	1
Maintenance of a rural lifestyle – viewing ranching not as a way of making money or even productin beef, but as a way of life.	21	2
Work Ethic and Free Enterprise System – rewards in life are directly related to efforts – non-interference from outsiders or outside forces.	21	3
Traditionalism/Conservatism – fixity of habits and opinions – resistance to social and technological change.	19	4
Neighborliness (reciprocity and hospitality).	9	5

* See Appendix A for sampling methodology, 39 discussions with permittees is the basis for this table.

** Value statements are prioritized according to the number of ranch operators who mentioned key value themes.

III. SOCIOECONOMIC IMPACTS OF THE PROPOSED GRAZING MANAGEMENT PROGRAM

As discussed in the first chapter of this report, BLM is proposing a particular program of initial adjustments in permitted levels of livestock grazing and subsequent investment in range improvements and vegetative treatments. Initial adjustments in permitted grazing would be from long-established preference levels. The proposed action would also result in subsequent cuts from 1976-1980 average levels of use of grazing allotments of 14.0 percent. Spending of approximately $2.6 million would improve range conditions to the point that, no later than 2010, grazing levels would be increased by 28,984 AUM's over five-year averages in the period 1976-1980, an ultimate gain of 9.9 percent, and a gain from the lowest levels following initial adjustments of 27.8 percent.

Thus there are three distinct intervals during which impacts from the proposed action would be experienced: (1) the short-term, when cuts in permitted grazing in the Planning Area would be instituted in two stages, from existing levels of preference and as a result of monitoring; (2) the investment period, during which grazing levels would gradually be restored as the benefits of range improvements and vegetative treatments were felt; and (3) the long-term, when the proposed grazing management program would be complete.The following sections describe socioeconomic impacts of this program and its three intervals. Alternatives to the proposed grazing management program are analyzed in the next chapter.

Regional Population

The proposed action would have no impacts on the total size, or aggregate characteristics, of the general population of the Three-County Area. The ranch operators and members of their families who would be directly affected by changes in permitted levels of grazing comprised 0.7 percent of all residents of the Area in 1980. While short-term, adverse economic impacts are projected for livestock ranches using public land in the Planning Area, and these impacts would result in shifts in employment and income patterns, the anticipated shifts would not necessitate any significant population movements.

Ranching Population

With short-term reductions from preference and actual levels of grazing under the Proposed Action, no livestock ranchers would necessarily terminate their operations. Ranch operators would be likely to persist in livestock production, pending the outcome of range improvement programs and of further vegetational monitoring studies. Most would have to borrow in order to continue, or seek other employment or income in the vicinity. To the extent that this proved impossible, they might choose to relocate to a major population center in the Three-County Area, such as Las Cruces, in order to be closer to the job opportunities located in such places. But in the short-term, the ranching population would not change in actual size.

Most ranch operators and members of their families identify themselves with ranching on an attitudinal rather than economic basis, the ranching population would likely continue to exist in the Three-County Area at 1980 levels. However, ties to ranching would be weakened as operators and workers took off-ranch jobs, and the extent to which members of the ranching population identified themselves as such would probably diminish. Such an impact would be greatest among subsistence-size ranches whose activities represent hobbies or side lines to the more important businesses run by their operators.

In the long-term, projected increases in grazing levels would strengthen ranching. How much individual livestock ranching operations were expanded would depend on the extent to which these operating units had been consolidated with other, adjacent ranches, or had been converted into hobby or sideline businesses. Some consolidation would appear likely with the Proposed Action. The short-term dislocation of the ranching economy described below might ultimately lead to some relocation of ranch families. Such families could move away from rural areas and closer to urban locations where supplementary sources of employment and income would be sought. The extent of such relocation is uncertain, and the growth of the regional economy suggests that relocation over long distances within the Three-County Area would not be required. Relocation would partly depend on the apparent speed with which range improvements in the proposed action were actually undertaken, the success of these improvements in improving range conditions, and the outcome of vegetational monitoring.

Regional Economy

In the short-term, the proposed action would diminish employment in the Three-County Area by 49 jobs, or full-time job equivalents. The largest number of these jobs would be in the agricultural sector. Employment in ranching would drop by 30, chiefly due to lay-offs of ranch workers in large commercial size operations. Jobs in farming activity and production of feeds would be diminished by an additional three. The remaining 16 jobs would be lost in non-agricultural sectors, primarily food processing, trade, and services. The short-term reduction in jobs would be less than 0.2 percent of 1980 employment in the Three-County Area. This reduction would be associated with direct and indirect decline in personal income of approximately $490 thousand, of which nearly $260,000 would be ranch income.

Over the period in which proposed rangeland improvements would be made, the Three-County Area would experience the injection of $2.5 million in capital spending by the federal government. The expenditures would not exceed $500,000 a year in any one year. Some portion of this investment would go to the purchase of materials and services from contractors and suppliers located outside the area. All such materials and services are subject to a process of open bidding. Nevertheless, the proposed spending could create up to 20 additional jobs, directly and indirectly. The location and type of these jobs would depend on the outcome of bid competitions and planning decisions, and therefore cannot be predicted. But part of this employment, and resulting (direct and indirect) personal income of up to $400,000, would accrue to residents of areas near improvement sites and rangeland to be treated.

In the long-term, the projected increase in levels of permitted grazing by 9.9 percent would eliminate the adverse economic impacts described for the short-term. Some benefits in terms of the added business volume would accrue to the regional economy. However, the livestock sales of affected ranches are not projected to equal or exceed 1976-1980 average levels until the beginning of the 21st century. The short-term hardship experienced by ranches would diminish the long-term benefits that would accrue to the beef industry and to related economic sectors. This would be especially true to the extent that ranch operators are forced to borrow in order to sustain their activities in the interval of short-term cuts. The cost of the proposed action can be measured by the amount of personal income displaced or foregone as a result. In the year of maximum reduction in permitted grazing, sales income would be cut by nearly $1 million. By 2000, this figure would be negligible. Over the intervening period, the lost income would exceed $7.5 million (in constant dollars). In 2010, the year of ultimate benefit, additional income generated by increased levels of grazing would be nearly $650,000. It would be more than 11 years before lost income was made up, without accounting for any interest costs incurred in the interim.

Ranching Economy

As a result of short-term adjustments in permitted grazing, livestock ranches using public lands in the Planning Area would employ approximately 180 persons, a decrease of 30 from the average in the period 1976-1980. This decline would reflect the fact that ranching would not be producing sufficient sales of livestock from commercial, particularly large commercial, size units to justify employment

of hired help at present levels. Personal income would drop by nearly $267,000 including reductions in income among ranch operators and employees whose jobs would not be entirely displaced and who would be led to seek supplementary sources of employment and income.

In terms of the regional economy, these impacts would be insignificant. However, in terms of the ranching economy, they would be substantial. Employment in livestock production from public land in the Planning Area would drop by 14.3 percent, and personal income from this ranching would be decreased by 15.3 percent. The relatively large decrease in personal income relative to employment reflects the extent to which affected operators and their families would attempt to persist in ranching, despite cuts in herd size, due to their attitudes toward, and values for, ranch work and lifestyles. Because the proposed action promises improvement of carrying capacities and restoration of grazing levels at close to 1980 figures, ranching operations which experience short-term cuts would probably attempt to continue in business until projected improvements occur. In order to do so, ranch operators and members of their families who are not already holding off-ranch jobs would be likely to take other kinds of employment. In this way, they would effectively subsidize continued operation of ranches with money obtained elsewhere. The subsidization would be a more extreme from other economic activies. than borrowing against the increasing value of ranch lands, and would not persist if projected improvements were not undertaken or were not successful.

The economic implications of these changes would be significant and adverse. Livestock sales would be significantly cut in the short-term, falling from the $7.2

million estimated in 1980 to an estimated $6.2 million with full implementation of grazing adjustments. This decline of nearly $1.0 million would represent a significant drop in the business activity of ranch operations. It would narrow the cash margins on which ranch operators rely. During the short-term, affected cattlemen would experience severe cash flow problems and operating constraints.- The initial cuts in permitted levels of grazing would also have a severe impact on the financial position of ranch operators using public lands. As livestock sales and net cash income decline, their ability to borrow money would be reduced by a total of $2.5 million, or 22.8 percent. Those ranchers who are heavily indebted already would find it difficult to meet existing obligations, and would be threatened with loan failure. Ranchers who sought to sell their operations would also be affected. Market values of operations with allotments in the Planning Area would drop by an aggregate $5.0 million. Because of these adverse impacts on ability to borrow and sales value of ranch properties, ranch operators would probably have to draw on individual and family wealth, or new sources of employment and income, in order to make up for revenue lost in grazing cuts.

In the long-term – no later than 2010 – herd sizes of livestock ranches using public land in the Planning Area are projected to increase. The total number of AU's would climb to 34,750, or 9.9 percent greater than the five-year average for the period 1976-1980. As a result, the economic position of livestock operators would resemble the description given in Chapter II but in most cases would be slightly improved. The restoration of carrying capacities and grazing levels would benefit ranches in all size categories. Subsistence-size operations would have average long-term herd sizes of 26 AU's, compared to 24 AU's in 1976-1980 and 21 after

short-term cuts. For small commercial ranches, the comparison would be between 145 AU's, 173 AU's, and 106 AU's. Among medium commercial ranches the figure in 2010 would be 341 AU's compared to 316 AU's in 1976-1980 and 274 after cuts. Large commercial ranches would average 897 AU's in the long term, having had an average of0817 AU's 1976-in 1980 748 716 in the short-term.

Livestock sales would grow to $7.6 million annually from $7.2 in 1980 and $5.4 in the short-term. However, the economic value of this increase is uncertain since it would follow a period of 10 to 20 years of financial hardship and operating constraint. For all permittees holding allotments in the Planning Area and experiencing short-term cuts in permitted grazing, the problems of the 1980's could outweigh rewards expected in the first decade of the next century. given the advanced age of many ranch operators, and the frequent reluctance of their children and relatives to take on the burden and obligations of ranch operation, it is uncertain how long and to what extent the non-economic commitment of ranching families to ranching can be expected to persist, in the fact of declining income and diminishing wealth.

Social Conditions

The social impacts associated with the implementation of the proposed action should be viewed in the context of changes that are already occurring in the Three-County Area. Urbanization and the growth of the Las Cruces SMSA is likely to continue. This trend will likely be encouraged by expansion of trade, service and government sectors. This will increasingly involve the influx of persons who do not

share the traditional values of the rural population for instance. As described in the previous section, the reasons for recreational purposes, while having the advantage of living in a full service, growing community. These urban dwellers and recent migrants view growth with some dissatisfaction, but usually as it is manifested in the deterioration in community services.

Rural areas will continue to gradually decline in regard to population and economic significance. Nonetheless, the ranchers of the area have been faced with this gradual trend and have acted in ways to preserve the rural lifestyle they enjoy. They feel a strong attachment to the land and due to the Bureau of Land Management's past policies of implicit support of the ranching business, the agency has inadvertently encouraged their feeling of proprietorship. This view of "ownership" is also illustrated in the ways they have come to acquire the ranch and the fees they must pay. As a reflection of this majority sentiment, one rancher said ". . . I have a different right to the land than other users by the fact that I pay a grazing fee and I bought the permit when I bought the ranch. My heirs will pay an inheritance tax and therefore, this is real and tangible property."

A strong conservation sentiment was expressed by the permittees in the sample. Many permittees strongly believe that because they are making the investments in their land, they are also the first to protect that investment. As one cattleman said, "I can see the consequences of running more cattle and the long-term costs of adding more resulting in smaller and smaller calving crops and more costs of feed." In this regard the implementation of this alternative would be more in line with what the ranchers themselves believe are appropriate grazing levels given the

vagaries of weather and long-term climatic changes. Barring this outcome, they complain that " . . . the government is not giving us credit for having learned range management and as a result, we are paying for the sins of the past when our grandfathers viewed the land and grazing resource as limitless."

With much of the data for the Proposed Action use alternative gathered from the permittees themselves, there is some doubt about how closely these figures reflect actual use estimates. The conservationist attitude encourages ranchers to cut back on their use in response to changing weather conditions. Even though some oeprators take pastures out of production, these same permittees do not report the cuts to BLM for fear that they will cut their licensed use. Confirmed from several sources, the five-year average use figures represents a higher level than is actually used. This attitude of considerable suspicion would probably continue as one rancher said, "I volunteered to cut and this was followed by BLM's rules and now I will be punished for it."

These broader changes will have a greater impact on the ranching population than will the implementation of the proposed action. No doubt, this will come in the form of increasing contact between ranchers and city dwellers in the rural areas, including some increase in vandalism. In any case, during conversations with ranchers in the southern Rio Grande Planning area, any reductions in grazing levels are perceived as the beginning of a threatening trend away from BLM's traditional support of the livestock industry and the ranching way of life. A manifestation of that support has come over the years in the mutual acceptance of preference levels as fair. Changes in the permit formula, however slight, calls into question the basis

upon which short- and long-termed cost effectiveness of the operation can be determined and credit availability can be assessed. More importantly, reductions in preference levels affect ranchers' estimate of family planning and prospects for the ranch being a viable inheritance, as well as some disruption in the status structure and the position of the rancher in his community. These latter aspects are difficult to quantify both in the short and the long term.

Government action signalling a shift in permit policy has greater social value and attitudinal implications than the incremental quantity of the cuts would imply. Thus, proposed cuts in grazing levels from preference to 5-year use, would involve a modest increment of reduction but nevertheless would entail sufficient uncertainty to cause some social instability. Likewise, the monitoring program, with its plan to carry out the cuts in phases with subsequent adjustments, would involve some additional source of uncertainty. Weather and fluctuations in the marketplace already produce wide variations in returns to the cattle industry. In addition to significant adverse conditions, the proposed cuts are perceived as being untimely. Ostensibly, the monitoring program is included as a mitigation measure. Its implementation will allow some adjustment over time in response to changes in the condition of the range. From the social point of view, however, it adds another factor of uncertainty into the business. One rancher concluded that " . . . you cannot plan your own operation when another fellow can come up every year and tell you how your range is going to hell or coming up black gramma."

Of the five alternatives being considered, the Proposed Action based upon the 5-year average use is by far the most popular alternative involving cuts. The least

amount of change to ranching economics and values (The Proposed Action and the No Action Alternative), elicits the most favorable response from the ranching program. This is partly due to recent reverses in the cattle industry as well as the greater social value attributed to the status quo in rural areas. In conversations conducted with permittees in the fall of 1980, change produced from the outside and affecting family and their independent status are considered to be significantly disruptive. This attitude is reflected in the following remark made by a permittee during these interviews. "I came here for the isolation, the serenity and even neighborliness has its place."

With the strong attachment to the land expressed by the permittees and their intention to preserve their independent and in some cases isolated lifestyle, cuts in the grazing levels donot always ensure that the ranchers will abandon their operation. As described earlier, there are compelling non-economic incentives for remaining in the business. Some doubt is emerging that if their implicit control over the operation diminishes and that the flow of "other" users increase, no matter what cuts are applied to their individual operations, the primary reasons for remaining in the cattle business would be gone.

IV. SOCIOECONOMIC IMPACTS OF ALTERNATIVE GRAZING MANAGEMENT PROGRAMS

Each of the five alternatives is briefly analyzed below, in comparison to the proposed action. Discussion of impacts is directly related to the analysis contained in the previous chapter.

NO ACTION ALTERNATIVE

Regional Population

The No Action Alternative would result in very little change in the growth trends already established in the 1970's. The City of Las Cruces and Dona Ana County would continue to grow. The urbanizing corridor between Las Cruces and El Paso would proceed at an annual population growth rate between 2 and 3 percent. With this growth, there would be further encroachment on agricultural lands. Even though there has been some reversal in the population decreases of the rural areas, the general trend is toward urban concentration of the overall population of the Planning Area and decreasing rural density.

Ranching Population

Some consolidation of smaller ranch operations could occur, but over all the majority of livestock ranches utilizing permits in the Planning Area would remain cow-calf production units using local pasture and rangeland. Generally, the proportion of ranches in each of the size classes are expected to be the same.

However, long-term affects of fluctuating beef prices could translate into disproportionate reductions in the number of operations in the smaller size categories. A small and consistent decrease in the ranching population from a total in 1980 of 785 persons is expected. If recent trends continue regarding the population directly dependent on ranching operations, the number and size of families of ranch operators would decrease over the next 30 years, by no more than five percent. By the year 2010, many of the current operators are expected to have retired, died, or relinquished everyday operations to younger members of the family. It is expected, however, that the rate of retiring operators would not be matched by an equal number of family members interested in continuing the operation. This factor contributes more than others to the expected consolidation and associated reductions in the total ranching population and the number of ranch operations. This pattern generally parallels declining rural populations and increases in size of operations throughout the agricultural sector in the United States.

Regional Economy

The total number of employed persons in the Three-County Area would change proportionately as a function of an incremental increase in population, rated between 2-3 percent. The government, trade, and service sectors would remain the prime employers and continue to dominate the income and occupation figures for the area. Generally, the total number of persons employed in the agricultural sector would remain at between 7 and 9 percent of the total employed population. It is expected, however, that the farm employment and income's yearly fluctuations would continue.

Ranching Economy

The total number of persons employed on livestock ranches using public land in the Planning Area are not expected to change appreciably from 1980 figures. Ranching would remain a small and steadily declining proportion of the total agricultural sector. Persons employed on ranches would continue to represent approximately 3-4 percent of the total agricultural employment in the Three-County Area. Likewise, the total contribution of agricultural income to the local economy would constitute about 5 percent. Total regional employment and personal income would remain at 1980 levels reflecting approximately 0.5 percent of the jobs and 0.4 percent of the earnings.

As a general rule, ranching in the Planning Area would remain marginally profitable for all size operations except the very largest. It is not expected that the condition of the range would change appreciably from its current levels of forage production, but this would depend in part on a continuation of climatic conditions as have occurred in the past. Costs of raising livestock are projected to increase, at least in the short-term, especially energy costs. As mentioned in Chapter 2, this particularly affects ranching operations with extensive land holdings. Cattle prices are expected to continue to fluctuate, yet as indicated in the discussion of current conditions, livestock sales would continue to exceed operating costs in all size categories.

The proportion of ranches with grazing permits on public land which serve as a primary source of income would continue to decline. This is the result of the tight

cost-price ratios in the national market. This outcome is also the result of a continuing yet measured decline in the current marginal to negative estimates of return on capital investment with small to medium sized ranching operations. The budgets would continue to show that cattlemen lose money in the long-term. Continuing appreciation of the value of ranchland in the Planning Area would act to minimize the otherwise significantly negative return on the ranch investment. Nevertheless, depreciation of ranch equipment and other cash business costs would mean that net income of ranch operations using public land would remain low.

Social Conditions

With the No Action alternative, the growth trends already established would continue. With more growth in the urban areas, some increasing contact between city dwellers involved in various recreational pursuits and the ranchers is inevitable. Some increasing friction between these two groups is likely. With no action, population growth would likely become the most significant source of change in the area. Generally, this change would be greeted with some increasing resistence by the long-term ranch residents. It is expected that, with retirement, market fluctuations and absence of inheritors, by the year 2010, the ranching population would have diminished from its present levels. Some of the small independent operators as is the case throughout the nation would be consolidated into larger ranches. Yet given the strong non-economic incentives associated with ranching in the region the total number of operations would not change dramatically. Some segments of the community would see the no action alternative as too closely associated with ranching interests. Some key informants

from urban areas complained that ". . . when BLM releases land it always goes to ranching. Many people would like to see it go to other purposes."

ELIMINATION OF LIVESTOCK GRAZING ALTERNATIVE

Regional Population

The Elimination of Livestock Grazing Alternative would have no significant impacts on the total size or relative composition of the population of the Southern Rio Grande Planning Area. With most of the inhabitants of the Three-County Area concentrated in Dona Ana County and the City of Las Cruces, the regional population would not be affected by adverse economic impacts projected for livestock ranchers. Smaller communities in the Hatch Valley, for instance, which depend more significantly on farm and ranching income would potentially be affected. However, these towns and villages have an economic base which is more tied to irrigated agriculture than to range livestock production. Changes in output from ranching would be expected to be negligable in terms of the larger economy. Ranch operators and workers would be likely to seek off-ranch jobs elsewhere in the Three-County Area, and consequently no population impacts would be felt in the region or counties.

Ranching Population

One-third of the total operations in the Planning Area – or 49 ranches – would be forced to close with the implementation of this alternative. This number of

ranches are wholly or largely dependent on federal AUM's. As a result of ranch closings, most current operators would be required to seek non-ranch jobs and other income sources. Approximately 75 jobs directly tied to these ranch operations would be displaced. Ranch operators, workers, and members of their families would be likely to relocate to cities and other population centers in the Three-County Area where new jobs could be obtained. In the long-term, elimination of livestock grazing would effectively remove most of the ranching population. Few ranching families could afford to persist in range livestock production by retaining some livestock on private or Forest Service lands. The competition for such forage would make this option only available to the largest and wealthiest operators.

Regional Economy

In the short-term, the elimination of livestock grazing would reduce employment in the agricultural sector. Ranching employment involves 4.9 percent of that total. However, agriculture is a limited part of the overall employment picture. The most important components of the regional economy are the government, trade, and services sectors. Thus, changes in the ranching sectors would not materially affect the general economy. Even elimination of $2.7 million in ranch income would be small in comparison to total labor and proprietors income in the Planning Area of approximately $611,665,000 in 1980.

611,165,000

Ranching Economy

Some ranch operators in the large size categories would survive an elimination of grazing on public land. Their continued operation would depend upon the level of their use of public land for forage. The small operator typically is more dependent on public land than the large operator. With a dependency of 75.9 percent, subsistence operators may choose continue as become hobby ranchers. In all likelihood, the majority of small ranchers would have to close out their operations. In contrast, the large commercial operators are dependent on Federal acreage for only 42.8 percent of forage and might have a greater variety of options provided by forage on privately-owned or state-leased lands.

Personal income would drop by approximately over $15 million including decreases in income among operators and employees whose jobs would not be totally displaced and who would seek other sources of income. In the context of the regional economy, these impacts would be insignificant. In terms of the ranching economy, they would be substantial. Employment in livestock producion from public lands in the Planning Area would drop by approximately 29.7 percent and personal income from this ranching would be decreased by 62.8 percent.

Social Conditions

In the history of the Southern Rio Grande Planning Area, ranching is an important part of the way the region was developed. The continuity and cultural aspects of that heritage would be irreversibly disrupted by elimination of livestock grazing.

Long-term patterns of family ranching would be eliminated. Important sources of social stability would also be disrupted both by the elimination of traditional types of community leaders, and of a significant source of business revenue in smaller villages and rural areas. An elimination of livestock ranching would substantially impact the communities outside major population centers and urbanizing areas which are supported almost entirely by farming and ranching.

Public lands in the Southern Rio Grande Planning Area would be openly accessible to all users, even though some ranch operators would choose to continue to own their intermingled private land for their primary residence or a second home. The expressed incentive for maintaining residence in the rural setting would continue strong enough to encourage a number of operators to remain on the land for farming or other non-agricultural pursuits. For those larger commercial operators forced out of business and also adjacent to the "urban corridor," elimination of livestock ranching would act to accelerate the encroachment on agricultural lands.

MAXIMIZATION OF LIVESTOCK FORAGE PRODUCTION (MLFP) ALTERNATIVE

Regional Population and Economy

The Maximization of Livestock Forage Production Alternative would have no impacts on the overall size or composition of the population of the Planning Area. The ranch operators for whom this alternative would have the greatest effect would constitute below 1 percent of all residents in this area. This alternative would not induce any short- or long-term shifts in the area's population. In the

short-term, impacts on the regional population would be as negligible as with the Proposed Action. In the long-term, benefits to the ranching population would be insignificant in the context of the total number of inhabitants of the region. In the long-term, ranch production would increase in all categories. With maximization of forage, livestock sales are projected to exceed their level prior to implementation. Long-term benefits would accrue directly to the beef industry and related economic sectors. This benefit would be reflected in an increase in regional personal income of $540,000, or 0.1 percent.

Ranching population and Economy

Short-term adjustments in grazing levels due to this alternative would be the same as with the Proposed Action. However, in the long term, significant increases in herd sizes would result. The long-term effect of this alternative would be to alter the size distribution of livestock ranches. The number of subsistence size operations would decrease by two and the small commercial would decrease by six. Medium and large operators would each increase by three, thus reflecting the gains in herd sizes and the net benefits to the larger operations. Overall herd sizes would vary significantly by size category, but all herd sizes would increase. Operations in the subsistence category would experience a slight increase from 24 to 27 AU's. All other categories would have more dramatic increases in herd sizes. Small commercial size operations would increase from 123 to 161 AU's, a 30.8 percent increase. Medium commercial herd sizes are proejcted to increase 14.8 percent, from 316 to 363. The average herd size in large commercial would increase 11.9 percent from 870 to 974.

The results of these changes in the long-term would mean that total livestock sales would increase significantly. Sales would increase to $8.7 million, up from the 1976-1980 average by $1.5 million. This would represent approximately a 12 percent increase in sales over current levels. Because of these increased sales, net cash revenues would be up by $1 million from 1980 levels of $3.7 million. The long-term effects on the financial position of the ranch operator would be beneficial. With average herd sizes increasing in all ranch size categories, ranchers would tend to increase borrowing. Loan valuations would increase by $3.3 million and market value of operations with allotments in the Planning Area would increase by an aggregate of $7 million up from 1980 assessments.

Social Conditions

With the Maximization of Livestock Forage Production Alternative, social impacts would be similar to the proposed action in the short term. However, because of projected increases in herd sizes, ranch operators would benefit from greatly increased revenues in the long term. Nevertheless, the recovery to preference levels of livestock grazing would take approximately 20 years. With no opportunity to expand operations, it remains uncertain how long heavily indebted operators would proceed based upon promised future returns. With the average age of ranch operators already advanced in years, short-term adverse impacts on ranch values could effectively discourage other family members from continuing in the beef industry. Moreover, vegetative treatments and the exact period of time allocated to "resting periods" awaits future estimates of the condition of the range. From the ranch family's point of view, this strategy creates uncertainty with regards to

investment planning and inheritance patterns. It would produce a sufficient level of unpredictability to cause delays in improvements and further alienate ranchers, who judge their level of social well-being in large measure on the degree to which they can exercise independence.

Initial decreases in grazing levels, compounded by the fact that the initial allocation will be made on use rather than preference, would create immediate hardship with some subsistence ranches going out of business. The key issue from the social point of view is the timetable for the recovery to current grazing levels or even higher. All of the natural, seasonal forces that guide the change and growth would be left to a mechanism of recovery based on an as of yet uncertain methodology of range evaluation. It is unlikely that decreases in the number of cattle on the range in the short term will be followed by an incremental increase in recreation visitor days on public lands. This will largely be the result of population increase and growing pressure to use the public lands independent of BLM's range management program. In light of the fact that the increase in wildlife cannot be predicted over the life of this alternative, the exact nature of the benefits to the other users can only be the subject of speculation.

This, the Maximization of Livestock Forage Production Alternative adversely affects the values of ranchers in the same ways as other alternatives. It further erodes their leverage in the timely management of "their lands" in response to rapidly changing range conditions. It introduces an element of uncertainty in the exact timing of grazing adjustments. It depends on a recovery period of approximately 16 years to return to current levels and some operators will choose to discourage their children to invest time and energy in their ranches – or seek jobs in town.

ranches are wholly or largely dependent on federal AUM's. As a result of ranch closings, most current operators would be required to seek non-ranch jobs and other income sources. Approximately 75 jobs directly tied to these ranch operations would be displaced. Ranch operators, workers, and members of their families would be likely to relocate to cities and other population centers in the Three-County Area where new jobs could be obtained. In the long-term, elimination of livestock grazing would effectively remove most of the ranching population. Few ranching families could afford to persist in range livestock production by retaining some livestock on private or Forest Service lands. The competition for such forage would make this option only available to the largest and wealthiest operators.

Regional Economy

In the short-term, the elimination of livestock grazing would reduce employment in the agricultural sector. Ranching employment involves 4.9 percent of that total. However, agriculture is a limited part of the overall employment picture. The most important components of the regional economy are the government, trade, and services sectors. Thus, changes in the ranching sectors would not materially affect the general economy. Even elimination of $2.7 million in ranch income would be small in comparison to total labor and proprietors income in the Planning Area of approximately $611,665,000 in 1980.

611,165,000

in the agricultural sector. This short-term reduction would represent less than 0.1 percent of the 1980 employment in the Planning Area. This decrease in employment would reflect a drop in personal income of an estimated $1.3 million, of which $680,000 would be ranch income.

Ranching Economy

Without being able to predict the specific outcome of monitoring activities as it related to the adjusted implementation of this alternative, the assumption of this alternative is that permitted levels of grazing would never return to 1980 preference or actual figures. Therefore, no long-term benefit would accrue directly to the beef industry and to related economic sectors. To the contrary, the alternative would cause a long-term decline in cattle ranching. During maximum reduction in permitted grazing, sales income would be cut by $3.7 million. By the year 2010, thelost sales from this ranching would be $30 million. With an average reduction in grazing levels of 39.7 percent over the short-term, livestock sales would be dramatically cut. Declining sales of $3 million would represent a 41.7 percent decrease in business activities. This would more than effectively eliminate the cash margins on which most small and subsistence operators survive.

The initial and continuing cuts in permitted levels from preference and from 1976-1980 averages would have severe impacts on the financial position of ranch operators. Their ability to borrow money would be reduced by a total of $8.2 million, or 40.2 percent. With many ranchers already heavily in debt, some would be threatened with default. Market values of ranch operations with BLM

allotments would drop by a total of $18.9 million. The declines in loan valuation and market values would greatly diminish the wealth position of ranching families. They would lose accumulated savings invested in ranches, at the very time when they would most need to borrow against these savings.

Social Conditions

Sizeable initial custs in all allotments in the Southern Rio Grande Planning Area would significantly effect the social stability of the area. Although grazing levels would recover somewhat by 2010, the initial action would make it extremely difficult for nearly 15 percent of the operators to remain in business. the symbolic impact of such an action would significantly increase friction between the different users. Already, the permittees and the other users of public lands have occasional confrontations. One permittee claimed that " . . . hunters, woodhaulers and rock hounds are wrecking the land for no reason."

Without comparable controls on each user sector, the potential for conflict would increase. As one permittee remarked "BLM controls use but no other multiple user is controlled . . . and we're the public too and the paying public." Another said that "I don't understand why they can police the rock hunters but don't police the fence cutters." Often, ranchers coming on persons cutting their fences which results in intermingled breed. There are also instances of hunters shooting cattle. One permittee said he " . . . lost 50 head of cattle in 5 years . . . found cattle shot by hunters and other evidence of blood but no carcases."

For approximately 25 percent of the operators who had older children working with them and who expressed a desire to pass the operation on to them,inheritance would be discouraged. Other aspects of long-range planning are also effected in the face of these cuts. One rancher said "I have made a lot of improvements in the last 11 years but since all of this talk about cuts started, I have hesitated to do anything and I don't know how long this kind of situation can go on." Along these same lines monitoring strategies could produce significant uncertainty and anxiety among livestock growers. However, oother users would be encouraged by the implementation of this alternative. Expanding recreational opportunities and eliminating obstacles to their pursuit are valued by urban residents. The extent to which these opportunities would actually be expanded is uncertain, but the reduction of livestock grazing would appear to remove one obstacle to recreationists.

REFERENCES

REFERENCES CITED

Ares, Fred N. 1974. The Jornada Experimental Range: An Epoch in the Era of Southwestern Range Management. Denver, Colorado: Society for Range Management.

Bostwick, Don and Gordon E. Rodewald, Jr. 1978. Goals of Range Livestock Cow-Calf Operators - Implications of Non-Economic Goals in Economic Research. Proceedings of the Western Agricultural Economics Association Annual Meeting, Squaw Valley, California. July 25-28.

Buffington, L.C. and C. H. Herbel. 1963. Vegetational Changes on a Semi-Desert Range From 1858 to 1963. Ecological Monographs. 139-164.

Cutter, David C. 1978. The Legacy of the Treaty of Guadalupe Hidalgo. New Mexico Historical Review. October.

Donaldson, Edith. 1976. The History of Dona Ana County. Las Cruces, New Mexico: Bicentennial Commission of Dona Ana County.

Harbridge House, Inc. 1978. Southwestern New Mexico Social-Economic Profile. Denver, Colorado: U. S. Bureau of Land Management.

Henderson, Donald C. and H. R. Stucky. 1966. Agricultural Land and Water in New Mexico. Santa Fe, New Mexico: State Planning Office.

Hutchinson, W. H. 1956. A Bar Cross Man: The Life and Personal Writings of Eugene Manlove Rhodes. Norman, Oklahoma: University of Oklahoma Press.

Reuta, Mark C. and Lee B. Zink. 1978. The New Mexico Economy: Change in the 1970's. Albuquerque, New Mexico: Governor's Council of Economic Advisors.

Rhodes, Eugene Manlove. 1975. The Rhodes Reader. Norman, Oklahoma: University of Oklahoma Press.

Sonnichsen, C. L. 1960. Tularosa: Last of the Frontier. New York, N.Y.: Devin-Adair Company.

Zeleny, Carolyn. 1974. Relations Between the Spanish-Americans and Anglo-Americans in New Mexico. New York, N.Y.: Arno Press.

Zickefosse, Paul W. 1977. New Mexico Migration, 1960-1970: The Causes and How the Migrants Fared. New Mexico Business. May.

APPENDIX A

FIRM ENTERPRISE DATA SYSTEM (FEDS) RANCH BUDGETS

TITLE: COW-CALF-YEARLING BEEF COW HERD, 100-199 COWS, SOUTHERN DESERT SUBREGION — SW-3 1978

1. INVESTMENT SUMMARY	CURRENT REPLACEMENT TOTAL	CURRENT REPLACEMENT PER UNIT	AVERAGE ACQUISITION TOTAL	AVERAGE ACQUISITION PER UNIT
LIVESTOCK	71297.00	475.31	71297.00	475.31
EQUIPMENT	80934.69	539.56	83578.12	557.19
*TRACTORS AND TRUCKS	18257.00	121.71	11136.77	74.25
*OTHER MACHINERY	1054.00	7.03	642.94	4.29
TOTAL	170548.12	1136.99	165660.25	1104.40

(*FULL INVESTMENT COST - ITEMS MAY SERVE MULTIPLE ENTERPRISES)

2. PRODUCTION	UNITS	QUANTITY	WEIGHT	PRICE	VALUE/UNIT	VALUE	VALUE/ PRODUCTION UNIT
STEER CALVES	CWT.	36.00	4.42	74.07	327.35	11786.02	
HEIFER CALVES	CWT.	26.00	4.30	62.90	270.47	7032.22	
FEEDER STEERS	CWT.	21.00	6.25	61.62	385.12	8087.62	
FEEDER HEIFERS	CWT.	8.00	6.00	54.12	324.72	2597.76	
CULL COWS	CWT.	20.00	9.00	35.53	319.77	6395.40	
TOTAL RECEIPTS						35899.02	239.33

3. VARIABLE COSTS	UNITS	NUMBER OF UNITS	PRICE	VALUE	COST/ PRODUCTION UNIT
PRIVATE RANGE	ACRE	4543.0	0.0	0.0	0.0
PAST. RENT/LEASE	ACRE	1698.0	1.23	2088.54	13.92
PUB GRAZ/FOREST	AM	823.0	1.60	1316.80	8.78
PROTEIN SUPP.	CWT.	516.4	8.23	4250.38	28.34
GRAIN (PURCH.)	CWT.	1.9	3.64	7.10	0.05
LEGUME HAY	TN.	19.6	61.98	1217.91	8.12
SALT & MINERALS	CWT.	67.5	4.44	299.70	2.00
VET & MED	DOL.	272.0	1.00	272.00	1.81
MARKETING	DOL.	232.0	1.00	232.00	1.55
HAULING	DOL.	230.0	1.00	230.00	1.53
RANGE IMPROVEMNT	DOL.	389.0	1.00	389.00	2.59
MACH FUEL & LUBE				1528.39	10.19
MACHINERY REPAIR				1381.71	9.21
EQUIP REPAIR				536.61	3.58
LIVESTOCK LABOR	HRS.	2352.00	2.72	6397.44	42.65
INTEREST ON OPER CAPITAL	DOL.	7515.52	0.09	653.85	4.36
TOTAL VARIABLE COSTS				20801.41	138.68

4. INCOME ABOVE VARIABLE COSTS	15097.60	100.65

5. OWNERSHIP COSTS (REPLACEMENT, TAXES, INTEREST, AND INSURANCE)		
MACHINERY	2036.96	13.58
EQUIPMENT	7733.98	51.56
LIVESTOCK	6613.55	44.09
LAND TAXES	740.60	4.94
TOTAL OWNERSHIP COSTS	17125.09	114.17

6. OTHER COSTS		
LAND CHARGE (LAND PRICE)	21751.88	145.01
GEN FARM OVERHEAD	1024.00	6.83
MANAGEMENT CHARGE (7.00% OF TC-LAND-PURCH. LVSK)	2674.69	17.83
TOTAL OTHER COSTS	25450.57	169.67

7. TOTAL OF ABOVE COSTS	63377.07	422.51
8. RETURN TO RISK	-27478.05	-183.19

FOOTNOTE: CALVING RATE 80, REPL. RATE 15.3, CATTLE LOSS 2.3, CALF LOSS 4.9%. 10/19/78
SPRING CALVING, SELLING CALVES IN FALL AND YEARLING IN SPRING. C. BOYKIN
GRAZING PRIVATE AND LEASED RANGE AND FS LAND YEARLONG. 11/16/79

ENTERPRISE CODE: 113213563
AREA CODE _3/35/_4/_0
FILE NO. 257
HEAD REPRESENTED BY BUDGET 68.2 (000)
PRODUCTION UNIT DIVISOR 150.
LAND CHARGE METHOD 2
LAG-PERMANENT STRUCT 25

MACHINERY COMPLEMENT NO. 44
EQUIPMENT COMPLEMENT NO. 2
PARAMETER SET 35
EDITION NO. 0
NAME SET 2
INTEREST CHARGE METHOD 21100
LAG-OTHER EQUIPMENT 4

DATE PRINTED:

AREA-_3/35/_4/_0 ENTERPRISE-112213543 FILE LOCATION-_257 ANNUAL CAPITAL COEFF-11 EDITION-__0

COW-CALF-YEARLING BEEF COW HERD, 100-199 COWS, SW-3 1978
SOUTHERN DESERT SUBREGION

LINE		1 JAN	2 FEB	3 MAR	4 APR	5 MAY	6 JUN	7 JUL	8 AUG	9 SEP	10 OCT	11 NOV	12 DEC	13 PRICE	14 WEIGHT	15 UNIT CODE	16 ITEM CODE	17 TYPE	18 CONT
PRODUCTION						NUMBER OF UNITS													
1	STEER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	0.0	74.07	4.42	16.	13.	2.	0.
2	HEIFER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	62.90	4.30	16.	14.	2.	0.
3	FEEDER STEERS	0.0	0.0	0.0	0.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.62	6.25	16.	8.	2.	0.
4	FEEDER HEIFERS	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.12	6.00	16.	9.	2.	0.
5	CULL COWS	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	35.53	9.00	16.	17.	2.	0.
OPERATING INPUTS						RATE/UNIT								PRICE	NUMBER UNITS	UNIT CODE	ITEM CODE	TYPE	CONT
11	PRIVATE RANGE	0.0	0.0	0.0	0.0	0.0	0.0	4543.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	7.	140.	3.	0.
12	PAST. RENT/LEASE	0.0	0.0	0.0	0.0	0.0	0.0	1698.0	0.0	0.0	0.0	0.0	0.0	1.23	1.00	7.	139.	3.	0.
13	PUB GRAZ/FOREST	0.0	0.0	0.0	0.0	0.0	0.0	823.0	0.0	0.0	0.0	0.0	0.0	1.60	1.00	29.	137.	3.	0.
14	PROTEIN SUPP.	0.0	0.0	0.0	0.0	0.0	0.0	516.4	0.0	0.0	0.0	0.0	0.0	8.23	1.00	16.	110.	3.	0.
15	GRAIN (PURCH.)	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	3.64	1.00	16.	80.	3.	0.
16	LEGUME HAY	0.0	0.0	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	61.98	1.00	3.	171.	3.	0.
17	SALT & MINERALS	0.0	0.0	0.0	0.0	0.0	0.0	67.5	0.0	0.0	0.0	0.0	0.0	4.44	1.00	16.	103.	3.	0.
18	VET & MED	0.0	0.0	0.0	0.0	0.0	0.0	272.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	288.	3.	0.
19	MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	232.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	399.	3.	0.
20	HAULING	0.0	0.0	0.0	0.0	0.0	0.0	230.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	347.	3.	0.
21	RANGE IMPROVEMNT	0.0	0.0	0.0	0.0	0.0	0.0	389.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	481.	3.	0.
24	GEN FARM CH	0.0	0.0	0.0	0.0	0.0	0.0	1024.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	459.	3.	0.
MACHINERY REQUIREMENTS						HOURS								PER REQD	ENRGY CAT.	POWER UNIT	MACH CODE	TYPE	CONT
50	PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	439.0	0.0	0.0	0.0	0.0	0.0	0.0	4.00	0.	10.	4.	0.
51	PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	306.0	0.0	0.0	0.0	0.0	0.0	0.0	7.00	0.	10.	4.	0.
52	PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	134.0	0.0	0.0	0.0	0.0	0.0	0.0	14.00	0.	10.	4.	0.
53	TRACTOR, 60 HP	0.0	0.0	0.0	0.0	0.0	0.0	165.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	3.	4.	0.
54	SPRAYER	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	86.	4.	0.
EQUIPMENT REQUIREMENTS														NUMBER UNITS	ENRGY CAT.	PROP COST	EQUIP CODE	TYPE	XXXX
78	FENCE, 4-W BARB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.800	0.	0.75	1.	5.	0.
79	CORRAL, POSTELUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.800	0.	1.00	5.	5.	0.
80	BARN, FRAME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	11.	5.	0.
81	MACH. SHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.000	0.	1.00	12.	5.	0.
82	SQUEEZE CHUTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	26.	5.	0.
83	BRANDING TABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	27.	5.	0.
84	LOADING RAMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	28.	5.	0.
85	LIVESTOCK SCALES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	29.	5.	0.
86	MISC. LS. EQUIP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.700	0.	1.00	25.	5.	0.
87	STOCK POND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.000	0.	1.00	61.	5.	0.
88	WINDMILL & TANK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.000	0.	1.00	49.	5.	0.
89	WATER WELL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.500	0.	1.00	48.	5.	0.
90	FEEDSALT TROUGH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.000	0.	1.00	30.	5.	0.
91	STOCK TRAILER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	50.	5.	0.
LIVESTOCK INVESTMENT																			
92	BROOD COW													127.000	0.	1.00	51.	5.	0.
93	REPL HEIFER													23.000	0.	1.00	52.	5.	0.
94	HERD BULL													10.000	0.	1.00	53.	5.	0.
95	SADDLE HORSE													4.000	0.	1.00	54.	5.	0.
96	REPL HEIFER CALF													23.000	0.	1.00	55.	5.	0.
99	LIVESTOCK LABOR	196.00	196.00	196.00	196.00	196.00	196.00	196.00	196.00	196.00	196.00	196.00	196.00						

MONTHLY SUMMARY

CATEGORY	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL RECEIPTS	1	0.0	0.0	0.0	0.0	10665.36	0.0	6395.40	0.0	0.0	0.0	18818.24	0.0
TOTAL VAR. COST	1	571.77	567.91	564.04	560.18	556.31	552.45	15721.46	544.71	540.85	536.98	533.12	575.64

CATEGORY	YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ANNUAL LABOR REQUIREMENTS															
LIVESTOCK LABOR	1	HR.	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	2352.0
TOTAL LABOR	1	HR.	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0	2352.0
FUEL REQUIREMENTS															
GASOLINE	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	2197.5	0.0	0.0	0.0	0.0	0.0	2197.5
DIESEL	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	673.2	0.0	0.0	0.0	0.0	0.0	673.2

ANNUAL COST SUMMARY FOR EQUIPMENT AND LIVESTOCK

LINE NO.	ITEM	SIZE	UNIT	TOTAL NO. OF ITEMS	PROPOR. CHARGED	LIST PRICE	DEPREC-IATION	INTER-EST	INSUR-ANCE	TAXES	TOTAL OWNERSHIP PER YEAR	REPAIRS	FUEL AND LUBE	TOTAL OPERAT-ING/YR	HOURS LABOR
1	FENCE, 4-W BARB	1.0	MILE	26.80	0.750	1657.00	1199.01	1709.35	0.0	196.48	3104.83	199.83	0.0	199.83	0.0
5	CORRAL, POSTELUM	100.0	FEET	4.80	1.000	647.00	186.34	155.35	0.0	18.32	364.04	20.70	0.0	20.70	0.0
11	BARN, FRAME	1000.0	SQFT	7.00	1.000	833.00	209.92	259.26	19.24	34.40	562.82	34.99	0.0	34.99	0.0
12	MACH. SHED	1000.0	SQFT	4.00	1.000	372.00	53.57	76.37	4.91	8.78	143.62	8.93	0.0	8.93	0.0
26	SQUEEZE CHUTE	1.0	EACH	1.00	1.000	678.00	58.68	27.47	0.0	3.22	89.37	6.52	0.0	6.52	0.0
27	BRANDING TABLE	1.0	EACH	1.00	1.000	1197.00	71.82	34.24	0.0	3.94	109.99	7.98	0.0	7.98	0.0
28	LOADING RAMP	1.0	EACH	1.00	1.000	432.00	25.92	22.17	0.0	2.55	50.64	2.88	0.0	2.88	0.0
29	LIVESTOCK SCALES	1.0	EACH	1.00	1.000	700.00	42.00	35.53	0.0	4.13	82.06	4.67	0.0	4.67	0.0
25	MISC. LS. EQUIP	1.0	EACH	0.70	1.000	1167.00	54.46	21.24	0.0	2.44	78.14	5.45	0.0	5.45	0.0
61	STOCK POND	3000.0		7.00	1.000	1433.00	401.24	466.62	0.0	53.80	923.05	80.25	0.0	80.25	0.0
45	WINDMILL & TANK	1.0	EACH	6.00	1.000	2025.00	437.40	623.57	0.0	71.68	1132.65	97.20	0.0	97.20	0.0
48	WATER WELL	100.0	FEET	13.50	1.000	525.00	283.50	330.68	0.0	38.01	652.19	28.35	0.0	28.35	0.0
30	FEEDSALT TROUGH	1.0	EACH	13.00	1.000	82.00	106.60	27.72	0.0	3.19	137.50	15.99	0.0	15.99	0.0
50	STOCK TRAILER	120.0	SQFT	1.00	1.000	2746.00	205.95	78.54	9.06	9.03	302.58	22.88	0.0	22.88	0.0
51	BROOD COW	1.0	CWT.	127.00	1.000	389.00	0.0	4258.65	0.0	0.0	4298.05	0.0	0.0	0.0	0.0
52	REPL HEIFER	8.5	CWT.	23.00	1.000	320.00	0.0	640.32	0.0	0.0	640.32	0.0	0.0	0.0	0.0
53	HERD BULL	14.0	CWT.	10.00	1.000	663.00	497.25	490.29	0.0	0.0	987.54	0.0	0.0	0.0	0.0
54	SADDLE HORSE	1.0	HD.	4.00	1.000	757.00	0.0	263.44	0.0	0.0	263.44	0.0	0.0	0.0	0.0
55	REPL HEIFER CALF	5.5	CWT.	23.00	1.000	212.00	0.0	424.21	0.0	0.0	424.21	0.0	0.0	0.0	0.0

TITLE: COW-CALF BEEF COW HERD, 200-499 COWS, SOUTHERN DESERT SUBREGION SW-3 1978

1. INVESTMENT SUMMARY	CURRENT TOTAL	REPLACEMENT PER UNIT	AVERAGE ACQUISITION TOTAL	ACQUISITION PER UNIT
LIVESTOCK	141593.00	471.98	141593.00	471.98
EQUIPMENT	127008.00	423.36	131463.69	438.21
*TRACTORS AND TRUCKS	18257.00	60.86	11136.77	37.12
*OTHER MACHINERY	1054.00	3.51	642.94	2.14
TOTAL	285922.62	953.08	282847.00	942.82

(*FULL INVESTMENT COST - ITEMS MAY SERVE MULTIPLE ENTERPRISES)

2. PRODUCTION	UNITS	QUANTITY	WEIGHT	PRICE	VALUE/UNIT	VALUE	VALUE/ PRODUCTION UNIT
STEER CALVES	CWT.	33.00	4.00	73.35	293.40	9682.20	
HEIFER CALVES	CWT.	44.00	3.85	58.85	226.57	9969.19	
FEEDER STEERS	CWT.	71.00	5.30	68.18	361.35	25656.12	
FEEDER HEIFERS	CWT.	21.00	5.10	59.00	300.90	6318.90	
CULL COWS	CWT.	31.00	8.38	36.65	307.13	9520.93	
TOTAL RECEIPTS						61147.34	203.82

3. VARIABLE COSTS	UNITS	NUMBER OF UNITS	PRICE	VALUE	COST/ PRODUCTION UNIT
PRIVATE RANGE	ACRE	2586.0	0.0	0.0	0.0
PAST. RENT/LEASE	ACRE	3863.0	1.23	4751.48	15.84
PUB GRAZ-BLM	AM	1782.0	1.51	2690.82	8.97
PUB GRAZ-STATE	AM	1104.0	1.43	1578.72	5.26
PROTEIN SUPP.	CWT.	543.0	8.23	4468.89	14.90
GRAIN (PURCH.)	CWT.	165.0	3.64	600.60	2.00
LEGUME HAY	TN.	38.1	61.98	2361.44	7.87
HAY	TN.	10.8	48.24	520.99	1.74
SALT & MINERALS	CWT.	117.0	4.44	519.48	1.73
VET & MED	DOL.	540.0	1.00	540.00	1.80
MARKETING	DOL.	695.0	1.00	695.00	2.32
HAULING	DOL.	552.0	1.00	552.00	1.84
RANGE IMPROVEMNT	DOL.	776.0	1.00	776.00	2.59
MACH FUEL & LUBE				1559.35	5.20
MACHINERY REPAIR				1401.05	4.67
EQUIP REPAIR				830.14	2.77
LIVESTOCK LABOR	HRS.	3216.00	2.72	8747.52	29.16
INTEREST ON OPER CAPITAL	DOL.	11957.91	0.09	1040.34	3.47
TOTAL VARIABLE COSTS				33633.79	112.11

4. INCOME ABOVE VARIABLE COSTS	27513.54	91.71
5. OWNERSHIP COSTS (REPLACEMENT, TAXES, INTEREST, AND INSURANCE)		
MACHINERY	2077.96	6.93
EQUIPMENT	12179.84	40.60
LIVESTOCK	13140.03	43.80
LAND TAXES	421.57	1.41
TOTAL OWNERSHIP COSTS	27819.39	92.73
6. OTHER COSTS		
LAND CHARGE (LAND PRICE)	12381.77	41.27
GEN FARM OVERHEAD	1906.00	6.35
MANAGEMENT CHARGE (7.00% OF TC-LAND-PURCH. LVSK)	4405.63	14.69
TOTAL OTHER COSTS	18693.39	62.31
7. TOTAL OF ABOVE COSTS	80146.56	267.16
8. RETURN TO RISK	-18999.22	-63.33

FOOTNOTE: CALVING RATE 72.1, REPL. RATE 13, CATTLE LOSS 2.8, CALF LOSS 3.8%. 10/19/78
SPRING CALVING, SELLING CALVES IN LATE SUMMER AND FALL. GRAZING C. BOYKIN
PRIVATELY OWNED AND LEASED RANGE, AND STATE AND BLM LAND YEARLONG. 11/16/79

ENTERPRISE CODE: 114416564
AREA CODE 3/35/4/3
FILE NO. 258
HEAD REPRESENTED BY BUDGET 133.3 (COO)
PRODUCTION UNIT DIVISOR 300.
LAND CHARGE METHOD 2
LAG-PERMANENT STRUCT 25

MACHINERY COMPLEMENT NO. 44
EQUIPMENT COMPLEMENT NO. 2
PARAMETER SET 35
EDITION NO. 0
NAME SET 2
INTEREST CHARGE METHOD 21100
LAG-OTHER EQUIPMENT 4

DATE PRINTED:

AREA-_3/35/_4/_0 ENTERPRISE-1144163&4 FILE LOCATION-_258 ANNUAL CAPITAL COEFF-11 EDITION-__0

CCW-CALF FEEF CCW HERD, 200-499 COWS, SOUTHERN DESERT SUBREGION SW-3 1978

LINE	1 JAN	2 FEB	3 MAR	4 APR	5 MAY	6 JUN	7 JUL	8 AUG	9 SEP	10 OCT	11 NOV	12 DEC	13 PRICE	14 WEIGHT	15 UNIT CODE	16 ITEM CODE	17 TYPE	18 CONT
PRODUCTION					NUMBER OF UNITS													
1 STEER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0	0.0	0.0	0.0	0.0	73.35	4.00	16.	13.	2.	0.
2 HEIFER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.0	0.0	0.0	58.85	3.85	16.	14.	2.	0.
3 FEEDER STEERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.0	0.0	68.18	5.30	16.	8.	2.	0.
4 FEEDER HEIFERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	0.0	59.00	5.10	16.	9.	2.	0.
5 CULL COWS	0.0	0.0	0.0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.65	8.38	16.	17.	2.	0.
OPERATING INPUTS					RATE/UNIT								PRICE	NUMBER UNITS	UNIT CODE	ITEM CODE	TYPE	CONT
11 PRIVATE RANGE	0.0	0.0	0.0	0.0	0.0	0.02586.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	7.	140.	3.	0.
12 PAST. RENT/LEASE	0.0	0.0	0.0	0.0	0.0	0.03863.0	0.0	0.0	0.0	0.0	0.0	0.0	1.23	1.00	7.	139.	3.	0.
13 PUB GRAZ-BLM	0.0	0.0	0.0	0.0	0.0	0.01782.0	0.0	0.0	0.0	0.0	0.0	0.0	1.51	1.00	29.	136.	3.	0.
14 PUB GRAZ-STATE	0.0	0.0	0.0	0.0	0.0	0.01104.0	0.0	0.0	0.0	0.0	0.0	0.0	1.43	1.00	29.	138.	3.	0.
15 PROTEIN SUPP.	0.0	0.0	0.0	0.0	0.0	0.0	543.0	0.0	0.0	0.0	0.0	0.0	8.23	1.00	16.	110.	3.	0.
16 GRAIN (PURCH.)	0.0	0.0	0.0	0.0	0.0	0.0	165.0	0.0	0.0	0.0	0.0	0.0	3.64	1.00	16.	80.	3.	0.
17 LEGUME HAY	0.0	0.0	0.0	0.0	0.0	0.0	38.1	0.0	0.0	0.0	0.0	0.0	61.98	1.00	3.	171.	3.	0.
18 HAY	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	48.24	1.00	3.	170.	3.	0.
19 SALT & MINERALS	0.0	0.0	0.0	0.0	0.0	0.0	117.0	0.0	0.0	0.0	0.0	0.0	4.44	1.00	16.	103.	3.	0.
20 VET & MED	0.0	0.0	0.0	0.0	0.0	0.0	540.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	288.	3.	0.
21 MARKETING	0.0	0.0	0.0	0.0	0.0	0.0	695.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	399.	3.	0.
22 HAULING	0.0	0.0	0.0	0.0	0.0	0.0	552.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	347.	3.	0.
23 RANGE IMPROVEMNT	0.0	0.0	0.0	0.0	0.0	0.0	776.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	481.	3.	0.
26 GEN FARM OH	0.0	0.0	0.0	0.0	0.0	0.01906.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	459.	3.	0.
MACHINERY REQUIREMENTS					HOURS								PER REQD	ENRGY CAT.	POWER UNIT	MACH CODE	TYPE	CONT
50 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	439.0	0.0	0.0	0.0	0.0	0.0	0.0	4.00	0.	10.	4.	0.
51 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	306.0	0.0	0.0	0.0	0.0	0.0	0.0	7.00	0.	10.	4.	0.
52 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	134.0	0.0	0.0	0.0	0.0	0.0	0.0	14.00	0.	10.	4.	0.
53 TRACTOR, 60 HP	0.0	0.0	0.0	0.0	0.0	0.0	180.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	3.	4.	0.
54 SPRAYER	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	86.	4.	0.
EQUIPMENT REQUIREMENTS													NUMBER UNITS	ENRGY CAT.	PROP COST	EQUIP CODE	TYPE	XXXX
78 FENCE, 4-W BARB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.400	0.	0.75	1.	5.	0.
79 CORRAL, POSTELUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.600	0.	1.00	5.	5.	0.
80 BARN, FRAME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.800	0.	1.00	11.	5.	0.
81 MACH. SHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.800	0.	1.00	12.	5.	0.
82 SQUEEZE CHUTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	26.	5.	0.
83 BRANDING TABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	27.	5.	0.
84 LOADING RAMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	28.	5.	0.
85 LIVESTOCK SCALES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.000	0.	1.00	29.	5.	0.
86 MISC. LS. EQUIP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.900	0.	1.00	25.	5.	0.
87 STOCK POND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.000	0.	1.00	61.	5.	0.
88 WINDMILL & TANK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.000	0.	1.00	49.	5.	0.
89 WATER WELL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.000	0.	1.00	48.	5.	0.
90 FEED&SALT TROUGH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.000	0.	1.00	30.	5.	0.
91 STOCK TRAILER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000	0.	1.00	50.	5.	0.
LIVESTOCK INVESTMENT																		
92 BROOD COW													261.000	0.	1.00	51.	5.	0.
93 REPL HEIFER													35.000	0.	1.00	52.	5.	0.
94 HERD BULL													20.000	0.	1.00	53.	5.	0.
95 SADDLE HORSE													8.000	0.	1.00	54.	5.	0.
96 REPL HEIFER CALF													39.000	0.	1.00	55.	5.	0.
99 LIVESTOCK LABOR	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00						

MONTHLY SUMMARY

CATEGORY	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL RECEIPTS	1	0.0	0.0	0.0	0.0	9520.93	0.0	0.0	19651.39	0.0	0.0	31975.02	0.0
TOTAL VAR. COST	1	781.81	770.52	771.24	765.55	760.61	755.38	27193.57	744.81	739.53	734.24	728.96	787.09

ANNUAL LABOR REQUIREMENTS

CATEGORY	YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
LIVESTOCK LABOR	1	HR.	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	3216.0
TOTAL LABOR	1	HR.	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	268.0	3216.0
FUEL REQUIREMENTS															
GASOLINE	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	2197.5	0.0	0.0	0.0	0.0	0.0	2197.5
DIESEL	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	734.4	0.0	0.0	0.0	0.0	0.0	734.4

ANNUAL COST SUMMARY FOR EQUIPMENT AND LIVESTOCK

LIN NO.	ITEM	SIZE	UNIT	TOTAL NO. OF ITEMS	PROPOR. CHARGED	LIST PRICE	DEPREC-IATION	INTER-EST	INSUR-ANCE	TAXES	TOTAL OWNERSHIP PER YEAR	REPAIRS	FUEL AND LUBE	TOTAL OPERAT-ING/YR	HOURS LABOR
1	FENCE, 4-W BARB	1.0	MILE	46.40	0.750	1657.00	2075.85	2955.46	0.0	340.17	5375.52	345.98	0.0	345.98	0.0
5	CORRAL, POSTELUM	100.0	FEET	9.60	1.000	647.00	372.67	318.78	0.0	36.64	728.09	41.41	0.0	41.41	0.0
11	BARN, FRAME	100.0	SQFT	14.80	1.000	833.00	443.82	632.73	40.68	72.73	1189.96	73.97	0.0	73.97	0.0
12	MACH. SHED	100.0	SQFT	6.80	1.000	372.00	91.07	129.83	8.35	14.92	244.16	15.18	0.0	15.18	0.0
26	SQUEEZE CHUTE	1.0	EACH	1.00	1.000	978.00	58.68	27.97	0.0	3.22	89.87	6.52	0.0	6.52	0.0
27	BRANDING TABLE	1.0	EACH	1.00	1.000	1157.00	71.82	34.24	0.0	3.94	109.99	7.98	0.0	7.98	0.0
28	LOADING RAMP	1.0	EACH	1.00	1.000	432.00	25.92	22.17	0.0	2.55	50.64	2.88	0.0	2.88	0.0
29	LIVESTOCK SCALES	1.0	EACH	1.00	1.000	700.00	42.00	35.93	0.0	4.13	82.06	4.67	0.0	4.67	0.0
25	MISC. LS. EQUIP	1.0	EACH	0.90	1.000	1167.00	70.02	27.31	0.0	3.14	100.47	7.00	0.0	7.00	0.0
61	STOCK POND	3000.0		8.00	1.000	1433.00	458.56	534.88	0.0	61.48	1054.92	91.71	0.0	91.71	0.0
49	WINDMILL & TANK	1.0	EACH	8.00	1.000	2025.00	583.20	831.43	0.0	95.57	1510.20	129.60	0.0	129.60	0.0
48	WATER WELL	100.0	FEET	18.00	1.000	525.00	378.00	440.91	0.0	50.68	869.59	37.80	0.0	37.80	0.0
30	FEED&SALT TROUGH	1.0	EACH	16.00	1.000	82.00	131.20	34.11	0.0	3.92	169.24	19.68	0.0	19.68	0.0
50	STOCK TRAILER	120.0	SQFT	2.00	1.000	2746.00	411.90	157.68	18.12	18.06	605.16	45.77	0.0	45.77	0.0
51	BROOD COW	10.0	CWT.	261.00	1.000	389.00	0.0	8833.02	0.0	0.0	8833.02	0.0	0.0	0.0	0.0
52	REPL HEIFER	8.5	CWT.	39.00	1.000	330.00	0.0	1085.76	0.0	0.0	1085.76	0.0	0.0	0.0	0.0
53	HERD BULL	14.0	CWT.	20.00	1.000	663.00	994.50	980.58	0.0	0.0	1975.08	0.0	0.0	0.0	0.0
54	SADDLE HORSE	1.0	NO.	8.00	1.000	757.00	0.0	526.87	0.0	0.0	526.87	0.0	0.0	0.0	0.0
55	REPL HEIFER CALF	5.5	CWT.	39.00	1.000	212.00	0.0	719.32	0.0	0.0	719.32	0.0	0.0	0.0	0.0

TITLE: COW-CALF BEEF COW HERD, 1000 & OVER COWS, SOUTHERN DESERT SUBREGION SW-3 1978

1. INVESTMENT SUMMARY	CURRENT REPLACEMENT TOTAL	CURRENT REPLACEMENT PER UNIT	AVERAGE ACQUISITION TOTAL	AVERAGE ACQUISITION PER UNIT
LIVESTOCK	665814.00	457.21	665814.00	457.21
EQUIPMENT	619729.12	413.15	222488.56	148.33
*TRACTORS AND TRUCKS	35205.00	23.47	21475.05	14.32
*OTHER MACHINERY	1259.00	0.84	767.99	0.51
TOTAL	1333453.00	888.97	921992.25	614.66

(*FULL INVESTMENT COST - ITEMS MAY SERVE MULTIPLE ENTERPRISES)

2. PRODUCTION	UNITS	QUANTITY	WEIGHT	PRICE	VALUE/UNIT	VALUE	VALUE/ PRODUCTION UNIT
STEER CALVES	CWT.	336.00	4.50	72.94	328.23	110285.25	
HEIFER CALVES	CWT.	232.00	4.00	60.56	242.24	56199.67	
FEEDER STEERS	CWT.	255.00	5.15	68.18	351.13	89537.31	
FEEDER HEIFERS	CWT.	99.00	5.00	62.90	314.50	31135.49	
CULL COWS	CWT.	173.00	9.00	36.65	329.85	57064.01	
TOTAL RECEIPTS						344221.62	229.48

3. VARIABLE COSTS	UNITS	NUMBER OF UNITS	PRICE	VALUE	COST/ PRODUCTION UNIT
PRIVATE RANGE	ACRE	37062.0	0.0	0.0	0.0
PAST. RENT/LEASE	ACRE	9266.0	1.23	11397.17	7.60
PUB GRAZ-STATE	AM	10757.0	1.43	15382.51	10.26
PROTEIN SUPP.	CWT.	2736.0	8.23	22517.28	15.01
GRAIN (PURCH.)	CWT.	57.0	3.64	207.48	0.14
LEGUME HAY	TN.	99.0	61.98	6136.02	4.09
HAY	TN.	45.0	48.24	2170.80	1.45
SILAGE	TN.	229.5	14.31	3284.15	2.19
SALT & MINERALS	CWT.	595.5	4.44	2644.02	1.76
VET & MED	DOL.	2186.0	1.00	2186.00	1.46
MARKETING	DOL.	1702.0	1.00	1702.00	1.13
HAULING	DOL.	2296.0	1.00	2296.00	1.53
RANGE IMPROVEMNT	DOL.	3882.0	1.00	3882.00	2.59
MACH FUEL & LUBE				4327.27	2.88
MACHINERY REPAIR				4517.94	3.01
EQUIP REPAIR				3894.32	2.60
LIVESTOCK LABOR	HRS.	12300.00	2.72	33455.99	22.30
INTEREST ON OPER CAPITAL	DOL.	29758.11	0.09	2588.95	1.73
TOTAL VARIABLE COSTS				122589.69	81.73

4. INCOME ABOVE VARIABLE COSTS	221631.87	147.75
5. OWNERSHIP COSTS (REPLACEMENT, TAXES, INTEREST, AND INSURANCE)		
MACHINERY	7586.96	5.06
EQUIPMENT	36522.34	24.35
LIVESTOCK	63198.03	42.13
LAND TAXES	6041.84	4.03
TOTAL OWNERSHIP COSTS	113349.12	75.57
6. OTHER COSTS		
LAND CHARGE (LAND PRICE)	177452.81	118.30
GEN FARM OVERHEAD	6272.00	4.18
MANAGEMENT CHARGE (7.00% OF TC-LAND-PURCH. LVSK)	16531.82	11.02
TOTAL OTHER COSTS	200256.62	133.50
7. TOTAL OF ABOVE COSTS	436155.44	290.80
8. RETURN TO RISK	-91573.81	-61.32

FOOTNOTE: CALVING RATE 81.1, REPL. RATE 13, CATTLE LOSS 1.5, CALF LOSS 2.8%. 10/19/78
EARLY SPRING CALVING, SELLING CALVES IN EARLY AND LATE FALL. C. BOYKIN
GRAZING PRIVATELY OWNED AND LEASED RANGE, AND STATE LAND. 11/16/79

ENTERPRISE CODE: 113215566
AREA CODE _3/35/_4/_0
FILE NO. 259
HEAD REPRESENTED BY BUDGET 230.7 (000)
PRODUCTION UNIT DIVISOR 1500.
LAND CHARGE METHOD 2
LAG-PERMANENT STRUCT 24

MACHINERY COMPLEMENT NO. 44
EQUIPMENT COMPLEMENT NO. 2
PARAMETER SET 35
EDITION NO. C
NAME SET 2
INTEREST CHARGE METHOD 20900
LAG-OTHER EQUIPMENT 4

DATE PRINTED:

AREA-_3/35/_4/_0 ENTERPRISE-113215586 FILE LOCATION-_259 ANNUAL CAPITAL COEFF-_9 EDITION-__0

COW-CALF BEEF COW HERD, 1000 & OVER COWS, SOUTHERN DESERT SUBREGION SW-3 1978

LINE	1 JAN	2 FEB	3 MAR	4 APR	5 MAY	6 JUN	7 JUL	8 AUG	9 SEP	10 OCT	11 NOV	12 DEC	13 PRICE	14 WEIGHT	15 UNIT CODE	16 ITEM CODE	17 TYPE	18 CONT
PRODUCTION					NUMBER OF UNITS													
1 STEER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	336.0	0.0	0.0	0.0	72.94	4.50	16.	13.	2.	0.
2 HEIFER CALVES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	232.0	0.0	0.0	0.0	60.56	4.00	16.	14.	2.	0.
3 FEEDER STEERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	255.0	0.0	68.18	5.15	16.	8.	2.	0.
4 FEEDER HEIFERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.0	0.0	62.90	5.00	16.	9.	2.	0.
5 CULL COWS	0.0	0.0	0.0	0.0	173.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.65	9.00	16.	17.	2.	0.
OPERATING INPUTS					RATE/UNIT								PRICE	NUMBER UNITS	UNIT CODE	ITEM CODE	TYPE	CONT
11 PRIVATE RANGE	0.0	0.0	0.0	0.0	0.0	0.0******		0.0	0.0	0.0	0.0	0.0	0.0	1.00	7.	140.	3.	0.
12 PAST. RENT/LEASE	0.0	0.0	0.0	0.0	0.0	0.09266.0		0.0	0.0	0.0	0.0	0.0	1.23	1.00	7.	139.	3.	0.
13 SUB GRAZ-STATE	0.0	0.0	0.0	0.0	0.0	0.0******		0.0	0.0	0.0	0.0	0.0	1.43	1.00	29.	138.	3.	0.
14 PROTEIN SUPP.	0.0	0.0	0.0	0.0	0.0	0.02736.0		0.0	0.0	0.0	0.0	0.0	8.23	1.00	16.	110.	3.	0.
15 GRAIN (PURCH.)	0.0	0.0	0.0	0.0	0.0	0.0	57.0	0.0	0.0	0.0	0.0	0.0	3.64	1.00	16.	80.	3.	0.
16 LEGUME HAY	0.0	0.0	0.0	0.0	0.0	0.0	59.0	0.0	0.0	0.0	0.0	0.0	61.98	1.00	3.	171.	3.	0.
17 HAY	0.0	0.0	0.0	0.0	0.0	0.0	45.0	0.0	0.0	0.0	0.0	0.0	48.24	1.00	3.	170.	3.	0.
18 SILAGE	0.0	0.0	0.0	0.0	0.0	0.0	229.5	0.0	0.0	0.0	0.0	0.0	14.31	1.00	3.	85.	3.	0.
19 SALT & MINERALS	0.0	0.0	0.0	0.0	0.0	0.0	555.5	0.0	0.0	0.0	0.0	0.0	4.44	1.00	16.	103.	3.	0.
20 VET & MED	0.0	0.0	0.0	0.0	0.0	0.02186.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	288.	3.	0.
21 MARKETING	0.0	0.0	0.0	0.0	0.0	0.01702.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	399.	3.	0.
22 HAULING	0.0	0.0	0.0	0.0	0.0	0.02296.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	347.	3.	0.
23 RANGE IMPROVEMNT	0.0	0.0	0.0	0.0	0.0	0.03882.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	481.	3.	0.
26 GEN FARM OH	0.0	0.0	0.0	0.0	0.0	0.06272.0		0.0	0.0	0.0	0.0	0.0	1.00	1.00	15.	459.	3.	0.
MACHINERY REQUIREMENTS					HOURS								PER RECD	ENRGY CAT.	POWER UNIT	MACH CODE	TYPE	CONT
50 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.01158.0		0.0	0.0	0.0	0.0	0.0	0.0	4.00	0.	10.	4.	0.
51 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	849.0	0.0	0.0	0.0	0.0	0.0	0.0	7.00	0.	10.	4.	0.
52 PICKUP, 3/4 T	0.0	0.0	0.0	0.0	0.0	0.0	207.0	0.0	0.0	0.0	0.0	0.0	0.0	14.00	0.	10.	4.	0.
53 TRUCK, 2T	0.0	0.0	0.0	0.0	0.0	0.0	340.0	0.0	0.0	0.0	0.0	0.0	0.0	14.00	0.	12.	4.	0.
54 TRACTOR, 75 HP	0.0	0.0	0.0	0.0	0.0	0.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	4.	4.	0.
55 SPRAYER	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.	87.	4.	0.
EQUIPMENT REQUIREMENTS													NUMBER UNITS	ENRGY CAT.	PROP COST	EQUIP CODE	TYPE	XXXX
78 FENCE, 4-S BARB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.000	0.	0.75	1.	5.	0.
79 CORRAL, POST&LUM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.900	0.	1.00	5.	5.	0.
80 BARN, FRAME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.600	0.	1.00	11.	5.	0.
81 MACH. SHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.100	0.	1.00	12.	5.	0.
82 SQUEEZE CHUTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.000	0.	1.00	26.	5.	0.
83 BRANDING TABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.000	0.	1.00	27.	5.	0.
84 LOADING RAMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.000	0.	1.00	28.	5.	0.
85 LIVESTOCK SCALES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.000	0.	1.00	29.	5.	0.
86 MISC. LS. EQUIP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.000	0.	1.00	25.	5.	0.
87 STOCK POND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.000	0.	1.00	61.	5.	0.
88 WINDMILL & TANK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.000	0.	1.00	49.	5.	0.
89 WATER WELL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.200	0.	1.00	48.	5.	0.
90 FEED&SALT TROUGH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.000	0.	1.00	30.	5.	0.
91 STOCK TRAILER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.000	0.	1.00	50.	5.	0.
LIVESTOCK INVESTMENT																		
92 BROOD COW													1305.000	0.	1.00	51.	5.	0.
93 REPL HEIFER													195.000	0.	1.00	52.	5.	0.
94 HERD BULL													86.000	0.	1.00	53.	5.	0.
95 SADDLE HORSE													23.000	0.	1.00	54.	5.	0.
96 REPL HEIFER CALF													195.000	0.	1.00	55.	5.	0.

99 LIVESTOCK LABOR	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00	1025.00

MONTHLY SUMMARY

CATEGORY	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL RECEIPTS	1	0.0	0.0	0.0	0.0	57064.01	0.0	0.0	0.0	166484.87	0.0	120672.75	0.0
TOTAL VAR. COST	1	2949.70	2929.49	2909.28	2889.06	2868.85	2848.64	96903.12	2808.21	2788.00	3010.34	2990.13	2969.92

CATEGORY	YEAR	UNIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ANNUAL LABOR REQUIREMENTS															
LIVESTOCK LABOR	1	HR.	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	12300.0
TOTAL LABOR	1	HR.	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	1025.0	12300.0
FUEL REQUIREMENTS															
GASOLINE	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	6995.0	0.0	0.0	0.0	0.0	0.0	6995.0
DIESEL	1	GAL.	0.0	0.0	0.0	0.0	0.0	0.0	1080.0	0.0	0.0	0.0	0.0	0.0	1080.0

ANNUAL COST SUMMARY FOR EQUIPMENT AND LIVESTOCK

LINE NO.	ITEM	SIZE	UNIT	TOTAL NO. OF ITEMS	PROPOR. CHARGED	LIST PRICE	DEPREC-IATION	INTER-EST	INSUR-ANCE	TAXES	TOTAL OWNERSHIP PER YEAR	REPAIRS	FUEL AND LUBE	TOTAL OPERAT-ING/YR	HOURS LABOR
1	FENCE, 4-S BARB	1.0	MILE	300.00	0.750	1657.00	3421.70	6186.33	0.0	711.07	20319.10	2236.95	0.0	2236.95	0.0
9	CORRAL, POST&LUM	100.0	FEET	47.90	1.000	647.00	1859.48	514.24	0.0	59.11	2432.83	206.61	0.0	206.61	0.0
11	BARN, FRAME	100.0	SQFT	100.60	1.000	833.00	3016.79	1390.50	276.54	159.83	4843.66	502.80	0.0	502.80	0.0
12	MACH. SHED	100.0	SQFT	151.00	1.000	372.00	255.75	117.90	23.45	13.55	410.68	42.63	0.0	42.63	0.0
26	SQUEEZE CHUTE	1.0	EACH	4.00	1.000	678.00	234.72	111.65	0.0	12.86	359.47	26.09	0.0	26.08	0.0
27	BRANDING TABLE	1.0	EACH	4.00	1.000	1197.00	287.28	136.95	0.0	15.74	439.97	31.92	0.0	31.92	0.0
28	LOADING RAMP	1.0	EACH	4.00	1.000	432.00	103.68	28.67	0.0	3.30	135.65	11.52	0.0	11.52	0.0
29	LIVESTOCK SCALES	1.0	EACH	2.00	1.000	700.00	84.00	23.23	0.0	2.67	109.90	9.33	0.0	9.33	0.0
25	MISC. LS. EQUIP	1.0	EACH	4.00	1.000	1167.00	311.20	121.38	0.0	13.95	446.53	31.12	0.0	31.12	0.0
61	STOCK POND	3000.0		17.00	1.000	1433.00	974.44	367.48	0.0	42.24	1384.16	194.89	0.0	194.89	0.0
49	WINDMILL & TANK	1.0	EACH	21.00	1.000	2025.00	1530.90	705.62	0.0	81.11	2317.63	340.20	0.0	340.20	0.0
48	WATER WELL	150.0	FEET	47.20	1.000	525.00	991.20	373.80	0.0	42.97	1407.96	99.12	0.0	99.12	0.0
30	FEED&SALT TROUGH	1.0	EACH	38.00	1.000	82.00	311.60	81.02	0.0	9.31	401.93	46.74	0.0	46.74	0.0
50	STOCK TRAILER	120.0	SQFT	5.00	1.000	2746.00	1029.75	392.71	45.31	45.14	1512.90	114.42	0.0	114.42	0.0
51	BROOD COW	10.0	CWT.	1305.00	1.000	389.00	0.0	44165.08	0.0	0.0	44165.08	0.0	0.0	0.0	0.0
52	REPL HEIFER	8.5	CWT.	195.00	1.000	320.00	0.0	5428.79	0.0	0.0	5428.79	0.0	0.0	0.0	0.0
53	HERD BULL	14.0	CWT.	86.00	1.000	663.00	4276.35	4216.47	0.0	0.0	8492.83	0.0	0.0	0.0	0.0
54	SADDLE HORSE	1.0	EA.	23.00	1.000	757.00	0.0	1514.76	0.0	0.0	1514.76	0.0	0.0	0.0	0.0
55	REPL HEIFER CALF	5.5	CWT.	195.00	1.000	212.00	0.0	3596.58	0.0	0.0	3596.58	0.0	0.0	0.0	0.0

APPENDIX B

ADJUSTED BASELINE RANCH BUDGETS FOR PLANNING AREA

PROJECTED RANCH BUDGETS, AND BUDGET ITEMS, FOR LIVESTOCK PRODUCERS IN THE SOUTHERN RIO GRANDE PLANNING AREA

Budget Item	Subsistence Size Category[e]	Small Commercial Size Category	Medium Commercial Size Category	Large Commercial Size Category
LIVESTOCK SALES	$6,573.60	$30,301.05	$64,508.24	$187,598.10
VARIABLE COSTS	3,553.04	16,407.12	34,595.68	82,493.40
Pasture and Range	440.16	2,662.95	9,435.76	20,323.20
Feed	169.20	975.39	3,074.68	7,673.40
Protein Supplement	583.56	2,583.15	4,708.40	13,006.50
Salt, Minerals[a]	93.84	472.32	1,109.16	2,931.90
Marketing, Fuel[b]	555.60	2,098.38	3,659.28	8,439.00
Repair[c]	496.52	1,741.68	2,338.40	5,620.20
Labor	1,087.44	5,314.83	9,182.96	22,332.90
Interest on Operating Capital	126.72	558.42	1,087.94	2,166.30
NET CASH INCOME	3,020.56	13,893.93	29,912.56	105,104.70
FIXED COSTS	3,854.88	17,617.29	36,776.08	90,123.30
Depreciation	3,046.80	13,875.63	28,765.48	70,757.10
Taxes and Overhead[d]	808.08	3,741.66	8,010.60	19,366.20
NET BUSINESS INCOME	(834.32)	(3,723.36)	(6,863.52)	14,981.40

Notes: a, includes medicines and veterinary services.
b, includes contracted hauling and oil purchases.
c, includes maintenance and repair for equipment and improvements.
d, includes provision for ranch management.
e, size categories defined as: subsistence, 1-74 AU's, 24 AU average; small commercial, 75-199 AU's, 123 AU average; medium commercial, 200-499 AU's, 316 AU average; and large commercial, 500 AU's and more, 870 AU average.

All dollars shown for 1978.

APPENDIX C

RANCH BUDGET CHANGES WITH CHANGES IN AVERAGE HERD SIZES

BUDGET CHANGES WITH CHANGES IN AVERAGE HERD SIZES, SUBSISTENCE SIZE CATEGORY[a]
Expressed in Dollars Per Animal Unit

Percent Change in Herd Size	Variable Costs, Total	Fixed Costs, Total	Other Costs, Total	Receipts, Total
+90	144.65	83.80	16.90	267.52
+80	145.11	89.65	18.08	268.38
+70	145.41	94.02	18.96	268.96
+60	145.87	101.44	20.46	269.82
+50	146.18	107.08	21.59	270.40
+40	146.49	113.38	22.86	270.98
+30	146.95	124.35	25.08	271.85
+20	147.26	132.93	26.81	272.44
+10	147.73	148.26	29.90	273.31
0	148.04	160.62	32.39	273.90
-10	148.35	175.22	35.33	274.49
-20	148.82	202.89	40.91	275.00[b]
-30	149.13	226.76	45.73	275.00
-40	149.61	275.35	55.53	275.00
-50	149.92	321.24	64.78	275.00
-60	150.24	385.49	77.74	275.00
-70	150.71	550.70	111.05	275.00
-80	150.87	770.98	155.47	275.00
-90	151.51	1,927.44	388.68	275.00

Notes: a, Changes assumed to result from increased stocking rates, not from acquisition of additional land or forage.

b, No continuation of curve indicating increasing value of receipts per unit assumed past $275.00 per animal in herd.

BUDGET CHANGES WITH CHANGES IN AVERAGE HERD SIZES, SMALL COMMERCIAL SIZE CATEGORY[a]
Expressed in Dollars Per Animal Unit

Percent Change in Herd Size	Variable Costs, Total	Fixed Costs, Total	Other Costs, Total	Receipts, Total
+90	119.06	75.29	18.57	221.11
+80	120.66	79.72	19.66	223.93
+70	122.15	84.29	20.79	226.56
+60	123.66	89.43	22.06	229.22
+50	125.19	95.23	23.49	231.92
+40	126.87	102.43	25.27	234.87
+30	128.43	110.11	27.16	237.63
+20	130.02	119.04	29.36	240.42
+10	131.76	130.50	32.19	243.49
0	133.39	143.23	35.33	246.35
-10	135.09	158.71	39.15	249.54
-20	136.95	179.77	44.34	253.03
-30	138.69	204.85	50.53	256.31
-40	140.45	238.07	58.72	259.62
-50	142.39	284.15	70.09	263.26
-60	144.20	359.54	88.63	266.66
-70	146.03	476.14	117.45	270.11
-80	147.88	704.69	173.82	273.61
-90	149.92	1,468.11	362.13	275.00[b]

Notes: a, Changes assumed to result from increased stocking rates, not from acquisition of additional land or forage.

b, No continuation of curve indicating increasing value of receipts per unit assumed past $275.00 per animal in herd.

BUDGET CHANGES WITH CHANGES IN AVERAGE HERD SIZES, MEDIUM COMMERCIAL SIZE CATEGORY[a]
Expressed in Dollars Per Animal Unit

Percent Change in Herd Size	Variable Costs, Total	Fixed Costs, Total	Other Costs, Total	Receipts, Total
+90	101.70	61.29	22.04	209.95
+80	102.52	64.63	23.24	209.31
+70	103.38	68.48	24.63	208.65
+60	104.21	72.68	26.14	208.01
+50	105.08	77.59	27.90	207.35
+40	105.96	83.20	29.92	206.70
+30	106.81	89.48	32.18	206.07
+20	107.70	97.03	34.89	205.42
+10	108.57	105.68	38.00	204.79
0	109.48	116.38	41.85	204.14
-10	113.13	129.49	46.57	210.60
-20	116.77	145.36	52.27	217.06
-30	120.66	166.41	59.84	223.93
-40	124.55	193.56	69.60	230.79
-50	128.70	232.76	83.70	238.09
-60	132.98	291.87	104.96	245.63
-70	137.27	387.12	139.21	253.16
-80	141.84	583.75	209.91	261.17[b]
-90	146.41	1,149.25	413.27	269.18[b]

Notes: a, Changes assumed to result from increased stocking rates, not from acquisition of additional land or forage.

b, No continuation of curve indicating increasing value of receipts per unit assumed past $275.00 per animal in herd.

BUDGET CHANGES WITH CHANGES IN AVERAGE HERD SIZES, LARGE COMMERCIAL SIZE CATEGORY[a]

Expressed in Dollars Per Animal Unit

Percent Change in Herd Size	Variable Costs, Total	Fixed Costs, Total	Other Costs, Total	Receipts, Total
+90	78.36	58.07	38.15	231.88
+80	80.02	61.27	40.25	230.03
+70	81.74	64.88	42.63	228.17
+60	83.50	68.95	45.30	226.33
+50	85.29	73.51	48.30	224.53
+40	87.11	78.78	51.76	222.71
+30	88.98	84.86	55.76	220.92
+20	90.89	91.96	60.42	219.13
+10	92.82	100.25	65.36	217.38
0	94.82	103.59	68.06	215.63
-10	96.86	122.62	80.56	213.89
-20	98.92	137.80	90.54	212.18
-30	101.04	157.56	103.52	210.47
-40	103.22	183.93	120.84	208.77
-50	105.41	220.35	144.77	207.09
-60	107.68	275.61	181.08	205.44
-70	109.99	367.85	241.68	218.73
-80	112.36	552.90	363.27	236.40
-90	114.74	1,099.06	722.10	255.49[b]

Notes: a, Changes assumed to result from increased stocking rates, not from acquisition of additional land or forage.

b, No continuation of curve indicating increasing value of receipts per unit assumed past $275.00 per animal in herd.

APPENDIX D

INPUT-OUTPUT RELATIONSHIPS OF MAJOR INDUSTRIES TO LIVESTOCK PRODUCTION

INPUT-OUTPUT RELATIONSHIPS OF MAJOR INDUSTRIES TO LIVESTOCK PRODUCTION, FOR EACH THOUSAND DOLLARS OF LIVESTOCK SALES

Industry Number		Dollars of Required Input	Dollar Contributions to Personal Income
1	Livestock Production	261.10	14.33
2	Other Agricultural Production	232.77	38.43
4	Agricultural Services	28.20	19.22
9	Stone and Clay Mining	.02	.02
12	Maintenance and Repair Construction	5.17	6.09
14	Food Packing and Processing	122.85	24.58
17	Miscellaneous Textiles Manufacturing	.30	.08
20-21	Lumber and Wood Product Manufacturing	.16	.06
24-25	Paper and Paperboard Manufacturing	1.59	.67
26	Printing and Publishing	.21	.16
27	Chemical and Fertilizer Manufacturing	2.10	.88
29	Drugs and Veterinary Product Manufacturing	1.73	.59
32	Petroleum Refining	4.20	.57
32	Rubber and Plastics Manufacturing	3.11	1.80
35-40	Glass and Metal Manufacturing	.32	.16
41-42	Machine Production	1.32	.89
44	Agricultural Equipment Manufacturing	4.01	2.03
48-49	Industrial Equipment Manufacturing	.25	.19
55-58	Electrical Equipment Manufacturing	.30	.20
59	Motor Vehicles Manufacturing	.46	.13
64	Miscellaneous Manufacturing	.09	.04
66	Transport and Warehousing	15.18	15.43
66	Communications	2.68	5.93
68	Utility Service	8.24	2.32
69	Wholesale and Retail Trade	33.41	61.11
70	Finance and Insurance	13.10	12.00
71	Real Estate and Rental	23.25	5.88
72-74-76	Services, General	.44	.37
73	Business Services	4.27	5.76
75	Automotive Repairs	2.75	1.35
77	Medical and Educational Services	5.19	8.29
78	Government Services	.14	.37

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business (April 1979), 4-51-72.

APPENDIX E

BASIC SOCIOLOGICAL DATA SET FOR IMPACT ANALYSIS

BASIC SOCIOLOGICAL DATA SET FOR IMPACT ANALYSIS

Data sources here and in the text of the support document provide the social details in order to better understand the community life of the Southern Rio Grande Planning Area. This information is one basis for making an independent decision regarding potential impacts flowing from the implementation of different grazing management alternatives. A long explanation regarding the difficulty of taking qualitative data from unstructured interviews and making defensible conclusions regarding social impacts need not be described here. The difficulties are evident from the fact that the researcher is using as one basis for his judgment, the collective perceptions of a number of residents and fashioning a definitive conclusion regarding changes to their communities and families. The collective or majority perceptions of on-going changes and impacts flowing from policy decisions guide this analysis, balanced by an understanding of the economic impacts determined by independent analysis and what is reasonable to expect from social change.

More specifically, the data base for determining social impacts resulting from implementation of the proposed action and other alternatives is organized into several core concepts:

1. Social profiles of the ranchers and their families.

2. Community profiles and social networks.

3. Salient attitudes, community issues and core regional values.

These concepts are further divided with key social indicators which are organized from information gathered during conversation with permittees (1978, 1980) and key informants (1978, 1980).

1. Social profiles of the ranchers and their families

1a. Length of residence on the ranch and in the ES area (data found in Table 5, Chapter 2).

1b. Place of residence in relation to allotment (data found in Table 6, Chapter 2).

1c. How many persons live on the ranch of 39 permittees interviewed, a total of 135 persons lived on the ranch operation--80 percent of these were blood relatives (children, spouses of children, cousins, grandchildren) and approximately 20 percent were part of full time ranch employee. Further data for all operations in the planning area is located on page 10-12 in Chapter 1.

1d. Age and sex of the operators: 92 percent of the ranch operators in the Harbridge House sample were male, and the average age is 53 years.

1e. How long has he operated the ranch? 60 percent of the sample have operated their ranches their entire lives--11 percent for over 10 years--10 percent for over five years--19 percent for less than five years or not specified.

1f. How many generations of the family have operated the ranch?

	N	%
Three or more	5	13
2-3	11	28
1	15	38
Less than 1	8	21
	39	100%

1g. Does the operator expect that the ranch will be operated by another generation of his family?

	N	%
Yes	19	49
No	8	21
DK	12	30
	39	100%

2. Community Profiles and Social Networks

2a. Do most people here feel a part of one community? (What divisions exist among people living in the area?)

Mentioned divisions in the community and number of mentions	N
1. Ethnic divisions (Hispanic vs. Anglo	8
2. Newcomers vs. oldtimers (ranchers)	5
3. Government vs. private sector	3
4. Urban vs. rural	3

2b. To what degree are people living in the area able to influence decisions of local, state and federal governments in respect to actions that affect the area?

		N
1. A great deal:		
local	9	
state	5	15
federal	1	
2. Somewhat:		
local	7	14
state	6	
federal	1	
3. Not at all:		
local	1	12
state	1	
federal	8	

2c. To what degree are certain groups in the community less able to influence government decision-making?

	(Number of mentions)
None	15
Ranchers	10
Chicanos	10
City people	4

2d. Have their been general changes in the area or community in recent years, due perhaps to development of the economy or in-migration of new residents?

	(Number of mentions)
No changes	14
Influx of Retirees	11
Urbanization (loss of farm land	9
General rapid growth	9
Increasing government control	8
Farming/ranching losing importance	7

2e. Has any one group in the area benefited more from these changes than another?

	(Number of mentions)
No	25
Realtors/Builders	16
Bankers/Businessmen	7
Recreationists	6
Newcomers Generally	5

2g. Have the changes been positive or negative (Perception of the Benefits Associated with Recent Growth by Place of Residence, see Table 2.11, Chapter 2)?

2h. Comparisons between Urban and Rural Informant's Ranking of Different Community Services? (See Table 2.13 Chapter 2)

3. Salient Attitudes, Community Issues and Core Regional Values

3a. Reasons for Being Attracted to the Planning Area Compared by Place of Residence (see Table 19, Chapter 2)

3b. Reasons for not Being Attracted to the Planning Area Compared by Place of Residence (see Table 2.10, Chapter 2)

3c. Differences in Value Priorities Between Urban and Rural Informants (see Table 2.12, Chapter 2)

3d. Value Priorities of Ranching Population in the Southern Rio Grande Planning Area (see Table 2.17, Chapter 2)

3e. All things considered, how well satisfied are you with (how much do you like) living in this area?

Code Category	Key Informants/Ranchers 1978 N	Ranchers 1980 N
Not at all	--	--
Not very much	--	--
It's okay	3	--
Very much	20	10
Completely Love it	25	29
	48	39

3f. What is the role and the value of ranching in the area?

Code Category	(Number of mentions)
Basic industry, stable economic base	27
Was important; now declining	16
Cultural backbone of the community	13
Preferred lifestyle of many local people	5
DK	3

3j. Do you have any particular feelings or concerns about this area, any changes which it is undergoing or activities of the Bureau of Land Management which you would like to express?

Code Category	(Number of mentions)
Need to educate public in proper use of federal lands vandalism, ORV's hunting, etc.)	12
BLM must help control growth and channel land use into optimal patterns	12
Further hikes in grazing fees will drive ranchers out	10
BLM biased toward recreation and wildlife	8
BLM needs more public input	7
BLM range personnel does not know enough about ranching	6
BLM is doing a good job	5
BLM is biased toward urban values	4
BLM should sell all land	3
Would like to see development on nonagricultural land	2
Need to expand wilderness programs	2

APPENDIX F

SAMPLING METHODOLOGY FOR CONVERSATIONS WITH PERMITTEES

SAMPLING METHODOLOGY FOR PERMITTEES IN THE SOUTHERN RIO GRANDE PLANNING AREA

In October 1980, a random sample from a universe of 153 operations were drawn. Harbridge House organized all allotments with distinct ranching operations and in turn into four size classes. These categories inccluded: subsistence 1-74 head (N-77); small 75-199 head (N=28); medium 200-499 head (N=26); and large ranch size over 500 head (N=22).

Using a table of random numbers, 14 permittees were drawn from each size class for a total sample size of 55.

During the week of the 9th of October, letters were mailed to each permittee indicating that Harbridge House would be contacting them during the week of the 13th and the 20th of the month (see Figure 1). Between the last two weeks of October discussions with 39 permittees were conducted. A copy of the respondent list is enclosed.

A discussion guide was used during the interviews. Because no OMB approval was sought, Harbridge House implemented orally, a memorized instrument. Questions were open-ended and personal monologues were encouraged. The key themes of the conversation were in the area of lifestyle (that is, where the rancher lived, how long they lived there, how they felt about the place, how they got along with the neighbors, were there any conflicting groups in the community, information on household size and characteristics). Core social (and ranching values and attitudes toward the alternatives and verification of ranch budgets (that is, size of herd, weaning period, make-up of herd, calving rate, seasonal variations in the use of the land, variable and fixed costs of ranch operations, mix of federal/state and private land).

HARBRIDGE HOUSE INC

Three Park Central, Suite 888, 1515 Arapahoe Street, Denver, Colorado 80202, Telephone (303) 572-8800

9 October 1980

Dear :

Our organization was chosen to prepare the economic and social impact component of the Southern Rio Grande Environmental Impact Statement. As a part of that effort, we will be contacting a number of ranchers in the next three weeks. Either I or Tom Ward will phone during the weeks of the 13th and 20th of October to arrange an appointment so that we may discuss the characteristics of your operation as well as your feelings about different proposals for livestock adjustments.

If you feel we might have difficulty in reaching you during this time, you can leave a message at either the District Office (505) 523-5571 or the Mission Inn (505) 524-8591 in Las Cruces. Otherwise, we hope that your schedule can accommodate us and we look forward to talking to you.

Sincerely,

Ronald Rinkle
Project Director

RR:tc

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SOCIOECONOMIC ANALYSIS OF
PROPOSED GRAZING MANAGEMENT PORGRAMS IN
THE SOUTHERN RIO GRANDE PLANNING AREA
OF NEW MEXICO

Interior BLM